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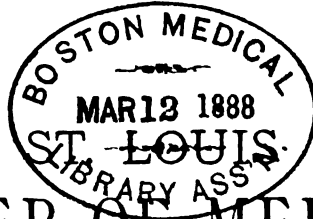
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ORIGINAL ARTICLES.

PUERPERAL CONVULSIONS.

BY T. L. PAPIN, M. D., LL. D.

[*Read before the St. Louis Obstetrical and Gynecological Society, Oct. 21, '86.*]

I HAVE selected puerperal convulsions, eclampsia, as a theme for my paper tonight. At the outset, I may say that I have no intention of giving you even a full synopsis of this subject, rather only a few notes. Indeed I have very little to say that is new; for, though a practitioner of many years, I have rarely seen cases of eclampsia. My motive, in truth, is rather to elicit from the members of this society, what they know—what they have seen of this fearful complication in parturition—fortunately so rare. My great interest in this subject, lately intensified by a discussion which I heard last winter in the St. Louis Medical Society, guided me, at last, in this selection of a subject.

For the causes of eclampsia, its symptoms, its treatment, its prognosis, its pathology, etc., I have sought in the modern literature on this subject, my own experience here and there guiding me in noting practical truths and eliminating what appeared to me only theories—not well founded on facts.

Hysteria, tetanus, catalepsia and apoplexy, modified, no doubt, by the puerperal condition of the patient, have been mistaken for eclampsia, or at least, modifications of this disease.

Eclampsia may terminate in effusion, cerebral or spinal; but then these effusions are effects of eclampsia, not the cause of the convulsions.

The modification in quantity or quality, or both, which the blood of a woman undergoes in pregnancy may induce rupture of blood vessels, effusion in brain or spine, or both, and this pathological phenomenon is ever preceded by loss of consciousness: it may be accompanied by spasms, clonic or tetanic, leaving effects more or less grave, according to size of blood clot and its situation. But this is not necessarily eclampsia, as I wish to present it to-night, nor even that condition of the system on which depend so essentially puerperal convulsions. It is apoplexy and its results.

Had I not proposed to myself to write only a short practical paper, I might go on forever explaining why all convulsions, hysterical, cataleptic, etc., incidental to human nature, more especially to woman's nature, and coming on, as often they do, in parturient women, and often modified by the pregnant condition of the woman, are not eclamptic.

What then is puerperal eclampsia? Clonic and tonic convulsions in which all or nearly all the muscles of relation are involved, often too, those of organic life, the involuntary muscles, resembling closely the fits of epilepsy—often returning, and at periods more or less far apart, leaving the patient in the intervals of the fits, in a more or less complete suspension of the intellectual and sensorial faculties. And this state may be continued for hours, rarely for days. Should there supervene hemorrhage, blood clots in brain or spine, or both, as I once saw in a patient years after her recovery, hemiplegia or paraplegia, or both, will result, in the same way that the hemorrhagic clot of apoplexy will permanently paralyze its victim.

The causes of eclampsia seem almost as puzzling and obscure to us now as they were to our fathers in medicine. The best of us, and most experienced, is often taken by surprise. The one element most frequently found is albumen in the urine. But even this, De Paul and Masceral tell us, is not always present prior to the first convulsion, though *always* found afterwards, and I am not sure but the urine voided during the first convulsion proved albuminous. These gentlemen spoiled a very fine theory by finding in their numberless tests six or seven cases of eclampsia, in which, they tell us, no albumen was found prior to the fit.

“One swallow does not make a spring.” Does the result of these few exceptional cases prove that albuminuria does not play the most important part in eclampsia, is not essential to the pathological results of this disease? I leave it to future research to answer this question.

Many women have albumen in their urine during pregnancy, and no eclampsia results. I don't speak of those treated and cared for. I speak of those who take their chances and come off without a bad symptom. I would be very sorry, for instance, if every congestive cephalalgia were to result in an apoplexy. I fear few of us would escape suspension of the intellectual and sensorial faculties. Many a one would, after recovery, drag a foot in walking, and have a useless, powerless arm to remind him of the frailty of human might.

I believe now, as I did years ago, that albuminuria, or that condition in pregnancy favoring the development of this pathological condition, is an essential element in eclampsia, that is to say, that that morbid condition in pregnancy, favoring albuminuria, when pushed to a certain point, determines the attack, and that too whether albumen has been found in the urine before the first fit or not; it is always on hand, and in abundance, too, as soon as the fit is on. So it was in De Paul and Mascaral's cases. With the exception of these few rare cases, (were they real?) albumen always precedes the attack. Now whether the lesion of the kidney favors the excretion, or excess of albumen in the woman's blood be forced and excreted through the kidney—*nolens, volens*—I don't know. Be this doctrine true or not, no excuse should deter the prudent practitioner from testing the urine of his patient when he has opportunity to do so, or where he has the remotest fear of puerperal convulsions. The test is an easy one, and the merest trace of this blood element can be detected. Then why neglect it? I think this prudential care, this anticipation of what may come, that too, without alarming the patient or her friends, is wise; especially where puffy eyelids in the morning, swollen, dropsical feet in the evening, short, oppressed breathing, severe headaches, blurred sight, tinnitus aurium, point out what is impending, if not averted and, as far as possible, wholly gotten rid of. Let me repeat in other words: Of

precursory phenomena, not always present, but to be noted when present, may be mentioned unusual irritability and nervousness, senseless temper and loquacity, dropsical effusion of the feet, sometimes extending to the abdomen, puffy face, especially puffy eyelids, most observable in the morning. Often with this tendency to dropsical phenomena, we observe pallor and an anemic appearance of the face, sometimes the reverse, a turgid, congested face, ferrety, blood-shot eyes, indicative of excessive plethora. Acute, poignant headaches, the true megrim of the French, hemi-cranic cephalalgia, culminating in nausea, vomiting, dimness of vision, partial vision, double vision, often tinnitus aurium. Such are some of the symptoms as they follow each other in quick succession. Such are the precursory symptoms, when present; for they are not always present, often wholly absent.

Of the developmental causes of these prodromata, excessive pressure on the renal blood vessels may, in a great measure, account for the congestion of the kidneys and consequent albuminuria, hence extreme distention of the uterus, due to dropsy of the amnion or multiple children, or again to a first pregnancy where the uterus is closely pressed against the spine, owing to a non-yielding of the abdominal walls; or to rachitis and consequent distortion and narrowing of the abdominal space, due to this disease, thus hindering the free expansion of the womb; and this latter, in turn, pressing preternaturally in every direction, offers a serious mechanical impediment to the proper functions of all the organs in the abdomen, especially compressing venous blood vessels—impeding venous circulation.

About forty per cent only of the cases, wherein convulsions precede labor, have the warnings above indicated. Convulsions occurring during labor proper, or in the delivery of the placenta, have premonitory symptoms in about thirty per cent, whilst convulsions after labor generally take us wholly by surprise, rarely giving us warning in more than about once in five or six attacks. So say the authorities on this subject. Let me add here, to complete this statistical résumé, that seven-eighths of eclamptic fits occur in primiparæ.

One of the oddities of this disease happened in my practice. This patient had for the third time puerperal convulsions. She

had, in former labors, given birth to four or five daughters without the least sign of convulsions, but when she bore sons, and she had two before I knew her, each boy labor was preceded by convulsions, ending only with the termination of labor. I saw this lady frequently, prior to the birth of her last child. I never saw less suffering or less cause for interference in a pregnancy. Labor, in due time, began early one morning with convulsions. Her husband, though very anxious, consoled himself with the idea that the baby coming was a boy. He begged me to terminate the labor as soon as possible, "because", he said, "the two other boys died on account of slow labor". Sure enough it was a boy, and for aught I know is now a grown up man. This occurred more than twenty years ago.

Eclampsia is always a fearful disease to combat. The prognosis may be considered most favorable in those cases where the urine contains but little albumen, when the fits come at the termination of labor, or near that time, where they are comparatively slight and of short duration and far apart. In such cases we have reasonable hopes of seeing them wholly terminate with the expulsion of the fetus and the secundines. Where, on the contrary, the convulsive attacks come on before labor or with its initiative pains, last long and are frequent, where the comatose condition in the intervals of fits seems to deepen; where the intellectual faculties, and especially the sensorial, are entirely suspended and cannot be roused, your prognosis may indeed be grave, for the chances of your patient's recovery are slight.

The mode of attack begins with restless agitation. The patient is irritable and disobedient; she sometimes is excessively loquacious and in a semi-delirious condition. Convulsions first appear in the face. The eyelids open and shut rapidly; the eyeballs roll upwards; a tonic convulsion of one side of the face appears at the same time; especially at the corner of the mouth. All the facial muscles are now drawn powerfully to that side. The head follows the same direction and is forcibly drawn to the shoulder. Now the mouth opens, the tongue, swollen and distorted, protrudes far beyond the alveolar arches, and the masseter muscles, participating in the tetanic or tonic contraction, close the teeth on the protruded tongue and often wound it in

a frightful manner. Now comes the clonic convulsion, and in this, the muscles of relation are pretty generally involved all over the body. The head is thrown rapidly from side to side; the arms and legs are fearfully agitated, always most apparent on one side. The muscles of the body, those of the back, the chest and abdomen, cause extreme contortions. The muscles of respiration, the facial, the intercostal, the diaphragmatic, all play an undue and unnatural part in this dreadful convulsion of nature. The muscles of the throat, those especially of the glottis, play an important and dangerous part, for, respiration is at times wholly suspended, causing asphyxia, which, were it to last a moment longer, would surely terminate in death. To those alternate tetanic and clonic spasms of the glottic muscles, we can easily trace that fearful, horrid countenance, fearful and horrid because of its turgid, swollen, purple and distorted appearance. Almost black with lividity is the face in which only a few moments before, we contemplated with pleasure the pure, refined, feminine beauty. Bloody, frothy saliva pours forth in abundance from the agitated lips. The eyes, but a while ago so full of beauty and intelligence, now stare, wide open but soulless, all, all fearful to behold.

In the first attack, the spasms last but a short time, hardly more than a few minutes, but as they return, more and more frequently, they last longer and longer, and deepen more and more the horrid picture—fill our hearts and souls more and more with dread of the danger impending.

The muscles of relation, the voluntary muscles, are not alone in this drama for life. Often, nearly always, we have evidence of a full or partial participation of the muscles of organic life, the involuntary muscles. Witness the frequent evacuation of the stomach, bowels and bladder. Less frequently, but much more to be dreaded, are the irregular contractions of the heart; and worse still the total suspension of its function—death. Or look to the respiratory organs, the lungs, see the sphincter-like ring-muscles of the bronchial tubes in their tonic contractions; see and dread the asphyxia thereby produced. Could pen or word depict eclampsia as it is in its convulsive state, untold horror alone would fill our hearts.

The spasmodic attack over, the patient passes into a comatose condition. The intellectual senses cannot be roused, the sensorial hardly ever. Eclampsia is truly a terrible disease, but, is its prognosis so grave? Is it dangerous to life? One in three dies. Madam Lachapelle says, "one-half die." Is it dangerous?

The treatment, I fear, is not very much better than what we know of its pathology, else why so fatal? The accoucheur who conscientiously does his whole duty, should never wholly lose sight of his patient during her pregnancy. Often advise her course of life as to diet, exercise, etc. Watch that the tendency to convulsions, remote or proximate, is averted, for, in prophylaxis, the prudent practitioner finds his safest path. All parts, all organs of the system, should be kept in a healthful condition. Is your patient constipated? Obviate it with gentle saline purgatives. Does she suffer from violent headaches? Leeches to the mastoid processes, to the temples, or wet cups along the spine, or better than these, venesection from the arm. Make sure too that the opening in the vein is large and free, so that you may secure a quick and decided impression without too great a loss of blood. Here again, you will find your saline aperient of the greatest usefulness as an adjunct and sequel to blood-letting. Is your patient puffed up with aqueous effusions in feet, legs, hands, arms, face? Does she look flabby or dull, of ashy pallor? Is she irritable, comatose in sleep, or wakeful to a diseased condition? Again, I say, reserve not your leeches, your wet cups; some little blood, if not much, she may lose with great advantage, *with marvellous advantage*. Watch here too that the bowels drain off gently this dropsical condition. Feed her well; feed her on digestible meats, rare and palatable. Does her appetite fail her? Rouse it with light pure wines, with iron—with that good old tincture of iron—I mean the tincture of the chloro-hydrate of iron. You must try it, this contradictory treatment, this blood-letting and purgative on the one hand and rare beef and mutton and iron on the other. You must try to learn by experience how cozily they go hand in hand, these antagonistic remedies. Is your patient nervous, restless, irritable, sleepless? Poor child; have mercy on her; listen patiently, sympathetically to her woes. So tone your words, so modulate your voice as to com-

pletely win her heart and confidence. She will cry; let her cry. Your magnetism is at work. Don't hurry or be brusque. Now give her some one of the numerous preparations of bromine; give valerian and ether, if she will bear these; quiet her; make her sleep; but give guardedly of opium or any of its salts. In these cases, especially if albuminuria be present, all preparations of opium, if possible, should be used in minimum doses. I sometimes have resorted to chloral hydrate since its introduction in practice, usually giving it in combination with some one of the bromides, and found it did much good. But your patient goes into convulsions anyhow, and without premonitory symptoms: or perhaps you have been called in at the last moment by the midwife. Your patient is in active labor and convulsions. What are you to do? If possible, (whilst preparing your remedies, your lancet and your chloroform) ascertain the condition of the labor. Learn if by your assistance, the labor can be soon terminated, for this is the one important element of danger. Then turn your attention wholly to the treatment. Some say bleed, some say make her inhale chloroform. In most cases I would say use both these potent agents judiciously and with masterly hands. Either or both may and will do much good. Their combination is rarely amiss. Evacuate the bowels and bladder, your enema and catheter will serve you. Unless the labor promises a speedy and spontaneous termination, do you help nature with your forceps, if the dilation of the os is sufficient; if not, wait with chloroform in hand. When the child is born, don't stop to revive it; that belongs to the nurse, for you hold the mother's life in your hand, as it were. Your duty is by her side; never leave her for a moment until fetus and secundines are delivered; and even then hold your post and watch until sensual if not intellectual life returns. You possess a powerful ally in chloroform during the passage of the child and placenta through the soft parts of the mother, from the superior strait of the pelvis to the vulva and out of this. Chloroform is king then in these latter manipulations of labor, especially if you are so fortunate as to have with you an intelligent and experienced chloroformist.

SCHOOL HYGIENE.

BY E. M. NELSON, M. D.

[CONTINUED FROM PAGE 493.]

LIGHTING.

THE next condition which must be considered is that of lighting. It is not necessary in an ordinary living room, whose occupants are free to move about and sit where they choose, that the remote corners shall be light enough for reading or sewing or other fine work; but in a school room it is important that the children sitting in every part of the room shall be abundantly supplied with light for study and writing. In order to secure this the window openings must be of ample size and properly situated. Cohn, one of the highest German authorities, puts the minimum proportion of window space to floor space at one to five. Erismann estimates it at one to four and a half; the Brussels Commission says one to six. Dr. Lincoln, in the article on school hygiene in Buck's "Hygiene and Health," says: "The size of the windows taken collectively should equal at least one-sixth of the floor space." The tops of the windows should be as near the ceiling as possible, in order to allow of the farthest seats receiving a full share, and also to secure that the ceiling itself shall be well lighted, as the diffused light from the ceiling is a most important element in the efficient lighting of the room. The tops of the windows should be square, as in arched or pointed windows a considerable amount of the most valuable part of the lighting space is sacrificed. In this connection it may be noted that the ceiling should be white, in order to reflect as much light as possible, while the walls should be tinted some light color, a light grey being most pleasant and easiest for the eyes. The light is most effective and least trying to the eyes when admitted at the left side. If sufficient light cannot be obtained from the left side, a window in the rear is admissible, but light from the right side of the room is much less favorable, and windows in front of the pupils should be absolutely proscribed. All authorities are agreed as to the disadvantage of admitting light from the front; but the Germans

are not as emphatic as are most of our best writers, as to the disadvantage of lighting from the right side. The window sills should be about four feet from the floor, in order that the lighting upon the work of the pupils may come from slightly above the level of the desk, as horizontal light does little to illuminate the desk, and tends to dazzle the eyes and impair vision.

The blackboard should be placed on the sides of the room opposite the windows and never between them; and the surface of the blackboard should be of a dead black, not glossy and reflecting.

In planning the school building, care should be taken that a desire for architectural effect and ornamentation be not allowed to take the form of projecting buttresses and casements and overhanging roofs or porches, which would interfere with the light supply.

SEATS AND DESKS.

Improper construction or arrangements of desks in school has been a not infrequent cause of physical deformities, as well as of aggravation of myopia by necessitating uncomfortable or unnatural positions in writing or drawing, or in bringing the book too near the face in studying.

Dr. Buckminster Browne, in a lecture before the American Social Science Association in 1879, referred to some of the causes of spinal curvature and other deformities as follows: "To bad positions in writing, drawing, at the piano, etc., also while standing during recitations (upon one foot), to carrying heavy weights, books for example, more on one arm than the other, to too much exercise of one arm while the other is comparatively idle, can undoubtedly be traced the majority of these curvatures, (*i. e.*, rotato-lateral curvatures of the spine). But it is not malposition alone that causes the trouble. It is likewise due to long continuance in one position, which, at first, may be a good one, but which, if continued for a considerable length of time, becomes changed, from simple fatigue of a certain set of muscles, into a bad one. These relax, sometimes one muscle or a set of muscles gives way; sometimes another set. The burden of sup-

port is consequently thrown to a great extent upon the ligaments which bind the vertebræ together. These in a young person are soft; their elasticity is soon overcome and they are stretched. The chain of bones of which the spine is composed yields. The muscles and ligaments no longer do their work, and the superincumbent weight of the head and shoulders bends the chain, or perhaps the preponderance of other muscles, not so easily fatigued, disturbs the equilibrium and that is the result. This curve may commence in the dorsal region between the shoulders, or it may begin in the loins."

The school desks and seats now made by American manufacturers pretty well meet the sanitary requirements for such furniture, the most important of which are that the seats should be of such height that the full length of the thigh may be supported and the sole of the foot rest flat upon the floor or upon a foot rest. The curved seats are much more comfortable, and therefore more desirable than flat boards for seats. The backs of the seats should tilt back slightly, and should be high enough to support the back just below the shoulder blades. The desk should be of such a height that as the pupil sits upright on the seat with the arms hanging freely, the edge of the desk next his body will be about one inch higher than the level of the elbows. The relative position of the seat and the desk should be such that a line let fall from the edge of the desk will strike the seat an inch or two from the front edge.

The chief difficulty in American school rooms is that although they are supplied with well constructed furniture, there is too little attention paid to the suiting of the scholars with seats and desks adapted to their size. Either the seats in a room are all of one size, while even the most perfect system of grading according to school work, will not secure uniformity of size in the pupils; or, when seats of different sizes are supplied, they are assigned to pupils not by reason of adaptation to the size respectively, but according to the standing in the class. At least three different sizes of desks should be employed for each class in a large graded school, and where the school is not graded, a larger variety of desks and seats should be used. And, in assigning seats, regard should be had to the adaptation to the comfort of the pupil without regard to rank in the class.

THE SCHOLAR.—SCHOOL LIFE AS RELATED TO THE NERVOUS SYSTEM.

That diseases of the nervous system are increasing in frequency and are constantly depreciating the vital powers of the most cultured peoples, is generally conceded by those who have most carefully studied vital statistics. Official reports in the state of Massachusetts represent that in 1883 there were three thousand five hundred and sixty-three deaths from cerebral disease as against one thousand three hundred and eighty-six in 1860, or an increase of 156.9 per cent of mortality against an estimated increase in population of 61.2 per cent. In a period of twenty-four years, the annual mortality from apoplexy advanced 229.4 per cent, from paralysis 162 per cent, and insanity 157 per cent.

It is asserted also that suicide is most prevalent in regions where education is most widely spread, that hydrocephalus and cephalitis are becoming more prevalent during the period of life included within the school age, and that somnambulism and somniloquency seem to be more or less intimately associated with school work.

Too many of the best scholars in our higher educational institutions, those whose minds are brightest and who give best promise of future success, come through their course of study broken down in health and utterly unfitted for useful activity in life thereafter. In some cases it is overwork alone that causes such a breakdown. The brain of the child or adolescent has been too long, too continuously, and too severely stimulated by the influence of personal rivalry or ambition, until Nature revolts and refuses longer to carry the burden imposed upon her, and the result is a shattered mind and a physical wreck. In many cases, however, careful investigation will show that other influences have contributed to bring about the result. The surroundings have been unwholesome, or the personal habits of the student have been, either from ignorance or recklessness, such as to lower the standard of health. The result in either way is such as to emphasize the necessity of intelligent sanitation in school life.

HOURS OF STUDY.

Much attention has been given of late to the question as to the

amount of study that should be required of students of different ages. It has been claimed by some educators, and they advance strong arguments sustained by still stronger experimental observations to prove their claims, that children will actually accomplish more and better work in three hours of school each day than in six hours. The "half-time system," which has been tested on quite an extensive scale in England, provides three hours of schooling each day for children of the laboring classes, and employs them during the remainder of the working hours in factories or workshops or on farms. The result has shown that children so employed make as rapid progress in school work as those who attend school six hours a day.

The "Manual Training School," established a few years ago in St. Louis as a department of the Washington University, and other similar schools in other cities, make a similar report. The boys who spend half their school hours in the work shop make as good advancement in their studies as do those who spend the whole time at their desks with their books.

Dr. Edwin Chadwick in a work on this subject says that a child from five to seven years old is able to give attention to one subject, a single lesson, for about fifteen minutes; from seven to ten years, about twenty minutes; from ten to twelve years, about twenty-five minutes; from twelve to sixteen years about thirty minutes.

Dr. D. T. Lincoln, probably the ablest writer on these subjects in this country, states that in West Point Academy, where the young men are a picked class of most excellent physique, rigidly excluded from dissipation and general society, required to take daily an abundance of physical exercise and to keep regular hours, supplied with nourishing diet, and situated in a healthful climate, altogether in the most favorable possible circumstances, the daily time assigned to study and recitations is ten hours during the six cold months of the year and much less during the remainder.

In universities generally he has found the amount of study and recitation which is most profitable to vary between eight and nine hours daily. In high schools during the period of rapid growth and sexual development, the ages of pupils ranging from

twelve to seventeen years, five or six hours should be the limit. Below the age of twelve years he thinks four hours sufficient; below ten years three or three and a half hours; and below seven years two and a half or three.

It is a waste of public money, an imposition on teachers, and an abuse of the public school system for parents to utilize the schools simply as nurseries to relieve them of the responsibility of caring for their children. The demand that the little ones in the lower classes shall be kept in school for the same number of hours as the older pupils comes largely from such an absurd misconception of the object of the school.

[TO BE CONTINUED.]

THE THERAPEUTICS OF DIPHTHERIA.

BY J. S. B. ALLEYNE, M. D., *Professor of Materia Medica and Therapeutics and Diseases of Children, St. Louis Medical College.*

DIPHTHERIA, angina maligna, angina suffocativa, cynanche maligna, ulcus Syriacum, malum Egyptiacum, are names evidently of the same disease, described from the most remote periods of medical history down to the present time, as an acute, febrile, contagious blood disorder, at stated periods devastating the earth with frightful malignancy, and again, its undeviating course still pursuing, dealing tenderly with mankind, as if at last shorn of all its deadly intensity, giving hope that it had succumbed in the contest with advancing civilization; yet still existing, as it shows itself in fitful gleams over a community, or appears here and there in solemn warning to an overweening confidence. It is a question whether, at any time, in any season or climate, we are ever free entirely from the disease. A solitary case will occur, not as then and there created, but as evidencing the development of the germ poison by some favoring circumstances.

Man's nature is to forget his griefs and his sufferings, or, as in the olden time, the heart is hardened into oblivion. It is curious to observe the apathy into which we fall after the disappearance of any epidemic; measures of prevention and cure are suspended;

the municipal ordinances become a dead letter, and we are left an easy prey to another infliction, which, sooner or later, at an appointed time, is sure to be made. During this past year, diphtheria has prevailed to a greater or less extent, more than as mere sporadic cases, rather as an endemic. If the cases were so mild as to cause some doubt as to their true nature, yet their very obscurity impressed itself upon the physician's mind as something strongly suggestive of this disease. I have often found that a careful observation of these cases which were simply ailing, has led me to a correct understanding of their true nature. It is idle to say that the prevalence of a disease, diphtheria so-called, during the last month, has been exaggerated by physicians as to the extent and intensity and nature. I cannot believe, as has been represented, that the greater number of cases of this prevalent disease are simply tonsillitis; I do believe that such an opinion has led to most disastrous results; that many a case of the malignant form of diphtheria can be traced to an individual who has hardly complained of any sickness. In few words, the regulations in relation to contagious diseases ought to have been enforced long ago, with the result of a prevention of diphtheria, which can with propriety be now called epidemic.

Notwithstanding the many excellent treatises on the subject of diphtheria which have appeared during the Christian era, not the least among them being that of our own countryman, Dr. Samuel Bard, in 1771, whose views at the present day are generally received, it is noteworthy that the disease seems to have been lost sight of from time to time, or masked under another name, even while ravaging a community. Thus Bretonneau, he it was who gave our present name to the disease, felt called upon to give the matter special study, and in 1826 appeared his treatise which gave us clearer notions as to its character and treatment. Since that time, though occurring as an epidemic in almost all parts of the world, our attention has been withdrawn from it by the bills of mortality of various cities, which reported no deaths from it for a number of years, though fatal cases of croup and angina were frequently mentioned. According to one author, (Meigs) quoting from the mortality statistics, there were from the years 1855 to 1859 inclusive, 1,393 deaths from croup,

none from diphtheria. But from 1860 to 1864 the deaths from diphtheria were 1,925. This was in Philadelphia. In New York, (see Smith) from 1858 to 1875, the mortality from croup gradually diminished, that from diphtheria increased in decided ratio, so that one time, not so long ago, true croup was alone recognized, diphtheria forgotten; now opinion goes to the other extreme. Membranous croup is a local manifestation of diphtheria, produced by the diphtheritic poison; or if this be not an exact statement of facts, at least the medical mind has been strongly moved of late by the question of the identity of the two diseases. The truth seems to be that the large majority of pseudo-membranous croup depend upon the inoculation of the diphtheritic virus, the micrococci of diphtheria. But there are causes other than this of true croup. Mechanical causes, or irritating inhalations, sudden atmospheric changes, or the inflammation of the mucous surfaces in contagious diseases, as in scarlatina, measles, pertussis.

"An interesting theory," I quote from J. L. Smith, on Diseases of Children, "is suggested by Heubner, who affirms that inflammations, even with the characteristic membranous exudation, may be set up without the micrococci of diphtheria, and then inoculation by micrococci occurs, and induces the general disease."

I think it is common to the experience of physicians and surgeons that inflammations, from whatever cause, as blisters or wounds, upon the surface of the body, or affecting the mucous membrane, are liable to become intensified under the influence of the virus; certainly we notice on the abraded surfaces the pseudo-membrane. The history of epidemics shows their powerful influence on the progress of other diseases, so that what before was simple, may become fatally complicated; catarrhal inflammations of the mucous passages will become pseudo-membranous under the influence of diphtheritic atmospheres. The careful practitioner may avoid the opprobrium of an error in diagnosis by knowing this fact and giving timely warning of the approach of the more deadly disease.

Simple laryngitis or stridulous laryngitis will run its course easily to resolution, if in a measure left alone; they are not ex

pressed by exudative formations. But let another influence pass over them, as the cause of diphtheria, and we have pseudo-membranous or diphtheritic laryngitis, or a new disease engrafted upon them with an assumption of its own characters, an obliteration of all symptoms of a mild, easily remedied disorder. It seems hardly worth the while then to be disturbed by the refined differences between pseudo-membranous and diphtheritic croup, for the anatomical characters, clinical history and treatment are so nearly identical. The surgeon is guided in his actions by considerations apart from the pathology of the two diseases; the indications for the physician to follow are the same in both diseases, however innumerable the remedies.

As common as the disease, diphtheria, is in this country, it is remarkable that the treatment should be so varied. On the one hand, it has been remarked that a physician is culpable who allows a case to run to a fatal termination. Most of us have sometimes felt that at last we have found the specific; but often enough the type in different localities and epidemics is so mild as to require no treatment at all, or to defy the most severe. Perhaps here and there some errors in diagnosis have been made, and we apply the name with good intent or bad intent. On the other hand, we find more severe cases succumbing, no matter what be done. Different theories as to the cause and nature of the disease, have led to different ways of treatment. The remedies have been anticipatory, either depletory or sustaining, according to what results might occur, or promptly stimulant or sedative, as might be the opinion, or masterly expectant where we know not what to do.

The germ theory has had a marked influence at the present day in the interpretation of the disease, if not an all-sufficient explanation of its production, at least as an important factor. Many observers have pursued the investigation of this subject, though to Pasteur we owe the clearest and most definite conclusions. Though his pursuits were in the line of the blood empoisoning in puerperal fevers, still they led him and others further along in the understanding of the contagious and infectious diseases. It is remarkable the precision which he reached; the examination of the lochial discharges for organisms enabled him

to predict an attack of fever before the most searching clinical observations of the physicians awakened suspicion of evil. It would be reasonable to suppose with him that the variety of forms of germ-disease, so-called, are the results of the variety of these microscopic organisms. But such a conclusion has not been uncontested. Other observers have stated that puerperal fever, scarlatina, erysipelas, diphtheria, are due to the action of one living poison, that these micrococci have not been found to possess individual differences. It may, however, be shown some day that there are different kinds, each with a distinct and specific action. But, as concerns us most to know in the treatment of diphtheria, how are these organisms introduced into the system, or are they introduced at all? Is this disease local or general? The theory of germs does not require that we should believe in a local disease. There are those who incline to the opinion that the disease is intensified by the portions of the pseudo-membrane being transferred from one place to another, as from the fauces to the larynx, and at the point of inoculation the specific inflammation arises. We cannot deny the possibility of autosepsis; still in these germ diseases, local determination, as Paget says, is no proof of local origin. How do we explain those rapidly malignant cases in which death follows in a few hours? The toxemia is manifested oftentimes before the appearance of the usual inflammation; or resists the action of the disinfectants made use of at the earliest possible moment, or shows itself in the state of the kidneys. It seems to me that clinical facts justify us in considering the disease as constitutional from its very inception. Local treatment, therefore, should be subsidiary to the general. I fear that too much reliance is placed on the application of the germicides to the inflamed surface. The bromine, chlorine, phenic acid, sulphites, are of little avail in checking the course of the disease; in general, it does not seem to me we have gained much with the vaunted antiferments. The germ theory has at present a strong hold upon our imagination. As we come to understand it better, we shall be better able to estimate with greater accuracy its value; to select with greater precision the medicine to meet the indication. We are all believers in the fascinating doctrine, but I do not think that thus far we have

gained that controlling power we hoped for, in the treatment of zymotic diseases.

In speaking of the management of diphtheria, I must pass necessarily by, as prolonging the subject too far, the hygiene of the disease. Ventilation and cleanliness in the thorough acceptance of the terms, embrace all that need or can be said. The actual treatment, whether local or general, depends on the belief that there is a specific principle, for which there is no known antidote, which rapidly entering the blood, produces in a shorter or longer time the symptoms characteristic of the disease. We feel certain of the infection of the blood, so soon as the pseudo-membrane appears.

The object of the local treatment is to relieve the local inflammation, to prevent the spread of the pseudo-membrane, to destroy its contagious properties and check the absorption of the septic poison. We may be often required to remove the foul secretions, which impede respiration. If, as it seems to me, the pseudo-membrane of diphtheria is but a local manifestation of a constitutional disease, but very little can be done towards preventing the spread or removing this exudation. So long as the general symptoms continue, it remains; when the disease has run its course, it sloughs off, the secretions diminish in quantity and viscosity, the tongue is cleared of its thick, foul, exudative covering, and there begins to appear the renewed delicate mucous membrane, the sure precursor of returning health. I think this must be the experience of every observer. The various solvents have not washed it away; we have not been able to mechanically remove it, except that it intensifies the inflammation and augments the thickening and infiltration of the mucous membrane; the strong irritant, or caustic applications, which shall act substitutively, will do immense harm. Indeed, this idea of a substitutive treatment is not applicable to the zymotic diseases; that principle is designated for a very different purpose. We have not cured the disease, if the pseudo-membrane be removed; as the disease passes away, the pseudo-membrane disappears of itself. So little do I think we can do in reference to this point, so little is gained by the constant examination of the fauces, that I often pass over several days without looking into the mouth, avoiding

the daily contest with the child, meanwhile giving the detergents and anti-ferments, or such medicines, as I may hope will cure the disease.

It would seem, therefore, that the efforts of local treatment should be directed towards the dissolving and diluting and decomposing of the thickened secretions, if that be possible, certainly clearing the air passages upon which so much depends. The real antizymotics, as the chlorate of potassa, iron, salicylate of soda, carbolic acid, although in habitual use, do not seem to me to answer the purpose. In alkalies we have such solvents and diluents. Lime, potassa, soda, ammonia exert a solvent action upon fibrin and mucin, and as the pseudo-membrane, a degeneration of fibrin and mucin, is, by actual experiment, dissolved in these menstrua, we have a solid therapeutic basis on which to rest. May it not be that trypsin, a digestive ferment secreted by the pancreas, or the extract of pancreas, acts as the alkali? It requires the combination of an alkaline solution to give it efficiency. Thus, in the inhalation, or spraying, or douching the nasal passages or the fauces with alkaline solutions, we have a fairly rational, local treatment; and if, by giving freely, as of the potassa or the ammonia, we could saturate the system with an alkali, we have an alterative agent, which might act as the germicide.

In the general treatment, we have the stereotyped use of nourishments, alcoholic stimulants and tonics. We are advised to use them boldly from the commencement, as the disease is asthenic. Some discrimination is necessary in selecting from those remedies. We have an acute febrile disease to contend with; those frightfully malignant cases which run their course in a few hours or days are the exceptions: we can do nothing with them. Usually some time is given us in which to act, and we should do so judiciously and warily. One of the earliest symptoms is loss of appetite, and often enough with vomiting, a symptom connected with any febrile movement; to give the most nutritious food, even if of a nature to be easily digested, is not the usual way of treatment in other diseases. But we must save the strength of the patient, it is said, by preserving the appetite. How can this be in such a condition of system and stomach?

Nature exclaims against this forced alimentation, and resents it in her own peculiar way. We all know the utter loathing for food, which even the young infant can express. If we force nutriment, will not the constant rejection of it reduce more the strength, than can be gained by the absorption of a small portion, which has been possibly digested? But there is no digestion. The patient may die of inanition, it is true; but not so immediately. It emaciates rapidly, but the fat, healthy child to begin with, has in itself something on which to exist in entering upon the disease. Death does not take place from inanition in the malignant cases; in the milder cases, they may be so prolonged, as that the disease and Nature shall expire together; but, as the rule, the poison is eliminated, or destroyed, or, in the course of its gradual extinction, reaction is taking place, and we are at once told of the wants of the system. I repeat, that in diphtheria it is not the loss of nourishment which destroys life, but the toxemia. But there is thirst, not for acidulated, sweetened, nutrient, flavored drinks, but for cool, cold water which is always acceptable, and to the extent of satiety. There is some significance for us as therapists, in the excessive proportion of water in our tissues. There is no digestion of it; it enters unchanged immediately into the blood; and we can understand how it may act as the refrigerant, fill the blood-vessels depleted by fever, dilute the thickened, stagnant life fluid, increase the secretions, empty clean the emunctories filled with putrilage, and give a better chance to Nature to throw off her burden. Because she tells us in plainest terms what is best to do, I know not why we should forage for her subsistence.

In the use of alcoholic stimulants, so strongly advised at the present day, we are but changing the form of the nutrient plan of treatment. Most writers speak in the same manner of alcohol. M. Sanné, in his treatise on diphtheria, says that alcohol is the surest of all antiseptics given internally. The more pronounced the infection, the more should we insist on their use. Others agree with him. It matters little in what form we give it, whether as wine-whey, or milk-punch, or brandy or whiskey; the point is the proper quantity. The mild cases do not require it; it is in the malignant cases that we must begin early in its

use and saturate the system with it. But of these mild cases we cannot prognosticate. How often do they run into the malignant! And on the other hand, we see the most severe prodromic symptoms subsiding in a day or two, and pursuing a quiet, even course. So that in all cases we should administer alcohol. But clinical facts do not seem to bear us out in this statement. Certainly, alcohol is not a specific in this disease; nor do I feel sure that it makes it more tractable. I will use alcohol continuously, moderately, where there is any intensity of symptoms, and to leave nothing undone; but when the patient manifests obstinate, violent disgust at it, as is most often the case after a few days, I cannot persuade myself that it is right. Better then, if a stimulant is required, to use the volatile alkali, ammonia, in quite small doses, or give the alcohol as an enema.

Tonics are demanded in the decline of the disease, not in the febrile stage, not in the malignant form. Quinine is of value in small doses as a simple bitter. I have never seen it in large doses act as an antipyretic, or as an antizymotic; on the contrary, I fear that in thirty or forty grains a day, we may do great harm, at least we aggravate the disease.

The ferruginous tonic is indicated when the disease has disappeared and the patient is left pallid and bloodless. Then on the return of appetite we add that other nutriment, iron, in the form of the milder preparations, as the pyrophosphate, or malate and in small doses, which are more easily assimilated, and then we have more time to act. It is at this period particularly required, for the heart may at any moment fail or become paralyzed at any sudden movement of rising or turning. The child should be recumbent and at perfect rest. It is not necessary that I should speak in this place of the pathology and treatment of diphtheritic paralysis.

But now, I have outlined the treatment of diphtheria as generally practised and advised. In looking over the field of action there seems to be a want of precision, an indefiniteness of movement which is surprising, knowing so much, as we think we do, of the ground on which we tread.

Diphtheria is the same dread disease as ever before; no physician hears of it but with apprehension, or approaches it but with

faltering steps. The books make two divisions of it, the mild and the malignant, which are equivalent to the two classes of those which get well and those which die, so little control of it is in our hands. In certain epidemics we seem to have certain remedial agents, and every individual may vaunt his success; in other epidemics we are utterly helpless; at one time we are confused with new remedies, at another, old ones are resuscitated. Shall we ever reach security? I doubt not that every one here present has his own way of treating the disease, has very likely his own favorite medicine. May I venture to suggest mine; an old one, very old, without an apology to cover its sins, or a new garment to hide its deformities. I have used it for a long time, for what it is worth, and there seems in it as much value, now-a-days, as when praised a century ago, or in the first quarter of the present. The medicine is mercury! I need not dwell upon the rise and fall of its reputation; upon the dangers represented as attending its use especially in diphtheria; how formerly were detailed the positively good results in this disease; and latterly works on children's diseases utterly ignore it, or refer to it only to condemn. I will only say that it has answered my purpose better, as far as I can judge, than any thing else, and I try to be influenced by all the new remedies that appear.

I hardly need discuss the question as to the value of mercurials in inflammatory diseases. Their happy influence over the phlegmasiæ, as formerly represented, should hold as true now as then. The alterative action of mercury in croup, whether the mucous membrane be inflamed without plastic exudation, or in the specific inflammation accompanied by false membranes, is as positive now as then. Absorbed into the system, it modifies the mass of the blood, renders it more fluid and less fit to throw out plastic secretions. Such an explanation is about all we can give to express the facts as we gather them at the bed-side. The medicine has fallen into disuse, probably from its heroic administration, whereby injurious results were entailed, but these were not often. If pytalism occurred, it was the least of two evils; if mercurial anemia remained, it was easily remedied. The destruction of hard or soft tissues by gangrene was so rare as not to be taken into account any more than the evil chances of anesthetics now-a-days,

or the operation of tracheotomy. Such injurious results from mercurialization are of rare occurrence in inflammatory disorders. The substitutes that are offered at the present day are merely topical applications, germicides, that act upon a locality, without affecting the general disease; as the pseudo-membrane is removed from time to time, it returns, and all this with great disturbance and suffering to the patient.

I would use mercury in diphtheria and its complication with laryngitis, in true membranous croup, when it occurs, which is seldom, with the purpose of infecting the system as rapidly as possible. We may not have the time to act, so rapid is the course of the disease, but it is our only dependence. In the mild form, in the malignant, in the exudative formations, we have a solvent which is beyond anything we possess; it is the result of daily observation, that the secretions from the throat and mouth are increased and diluted, that the thick, pultaceous masses upon the fauces and tongue are disorganized and washed away.

Of the mercurial preparations, calomel, in my opinion, is the best, being mild as the name implies; it is easily given, may act locally on the mucous membrane as it passes over, and destroy the germ poison; we can give it continuously without the fear of the toxic action so common with the other salts, especially in children. The bi-chloride is better as the germicide, used in solution to deluge the nasal passages and fauces. Because corrosive, we must be always very cautious to avoid its accidents, hence an interrupted, an imperfect action.

To expedite the mercurialization, the oleate of mercury may be applied to the neck. Its introduction into the nostrils and fauces would answer as a topical agent.

I do not wish to be thought enthusiastic on this method of treatment. What I have said is the result of some observation; it may amount to nothing but the expression of an opinion formed in my earlier days from those then old in the profession. The treatment has answered my purpose better than any other. We say mercury is alterative, but I cannot tell why, except in terms, which in themselves require explanation.

In the language of Dr. Murray, in the early part of this century, speaking of another medicine: "*Sufficit scire quid efficiat etiamsi modus nos lateat.*"

ELECTRICITY IN GYNECOLOGY.

BY GEO. F. HULBERT, M. D., Supt. St. Louis Female Hospital.

IN continuation of the subject of Electricity in Gynecology, (Vid. May, '86, COURIER, p. 402,) I desire this evening to present a paper in which I shall, more especially, speak of galvanic or voltaic electricity.

In doing so I wish to state that it is a report of personal experience, with the presentation of cases demonstrating results.

I lay no claim to priority in anything that may have been done, for the reason that I have been able to see or examine the methods and work of but few, and these imperfectly. I do not wish to be understood as assuming the "gynecological fashion" of speaking authoritatively, but do say that my work has been exceedingly satisfactory to myself.

I present my report with more courage and pleasure now than last winter, for I see by current medical literature that "electricity" is beginning to receive a more fair criticism, and is being elevated from odium and discredit to a recognized and scientific therapeutical position. I cannot agree with those who would have us believe it a harmless remedy, nor with those who contend that only a passing knowledge of its phenomena and properties is necessary for its use. I, at least, must acknowledge that in proportion as I have known it, so have I succeeded in its use; and I believe that as soon as we master it from a medical standpoint, just so soon do we come into possession of a most powerful and effective therapeutical measure.

As a therapeutical means, I prefer to consider it a *force* or *energy*, possessed of fixed and stable qualities determined by well known and exact conditions, a variation from which produces a variation in its qualities, directly dependent on the variation made, and of the degree that may be expressed, as so far and no farther.

It should be tangible and easily understood, not invisible and mysterious. I have felt that the expression "current" was misleading and not expressive of what really is.

In the consideration of voltaic electricity we first meet that

quality that may be expressed as force continuously exerted; that is the moment the elements which generate the force are brought in contact, or a circuit is made, the action begins and continues until the contact is broken, this force is exerted in a certain direction, from the positive or more active element to the negative or less active. In this connection it is important not to confound positive element with positive pole or electrode, or negative element with negative pole. The positive pole is that connected with the negative element, the negative pole with the positive element.

Second. It may be made an interrupted force by opening or closing the contact of the elements. We must not confound this with what is generally termed the interrupted current or Faradic electricity, because the phenomenon of induction is not one of the qualities of the galvanic force. The interrupted galvanic force is a decidedly different therapeutical means from the continuous, and I think is of value.

In the application to a muscle or nerve, of the continuous force, especially of mild and medium intensity, there is a contraction produced at the instant of contact called the making contraction, and one at the instant of removal, called the breaking contraction. While the electricity is passing through the nerve the muscle is at rest, provided the force is steady: any sudden variation in the strength of the force will produce a contraction in the muscle. These phenomena, however, are dependent to a great extent upon the position of the poles, and under certain conditions are not correct. The power to do work, or potential, and the quantity of electrical force are two important qualities to bear in mind.

In the use of galvanic electricity a knowledge of the physical and physiological effects produced in living and dead tissues by its application, has to me been of the utmost interest and importance, and has guided me in its use in the pathological condition presented. Among these I wish to refer especially to the phenomena of mechanical and chemical action, and electrotonus. The mechanical action of the galvanic force is moderate compared to the Faradic. It can be made a very powerful one by breaking the force, during its passage through the body, and is

capable of doing damage. The extent of its mechanical action is in direct ratio to the strength of the electrical force used. Electrotonus is a state of modified irritability produced in a nerve, through the influence of the galvanic force; this modification is of two kinds, anelectrotonus or diminished, and catelectrotonus or increased nerve irritability; the first state occurring at the positive, the second at the negative pole. The part of nerve between the poles, inter-polar, is most affected, that out-side, or extra-polar less so. There is a neutral point between the poles where the irritability is not changed. This point is determined by the strength of the force. When mild, it is central; when weak, near the positive; when strong, near the negative. This modification of nerve irritability has often been demonstrated in the following manner:

On the nerve of a muscle-nerve preparation let there be applied, at a distance from each other and some distance from the muscle, the electrodes of a galvanic circuit; let the proximal electrode be the negative pole, the distal the positive.

At some point between the proximal electrode and the muscle, let the electrodes, connected with an induction machine, be applied. Connect the muscles with a lever to record and measure the contraction. Before the galvanic force is applied to the nerve, let a single induction shock be thrown into the nerve, to record its existing irritability by the amount of muscular contraction. Now let the galvanic circuit be made. The arrangement will be of such a character as to give a descending force, or a force applied in the same direction as the nerve impulse. If we now send the induction shock through the same part of nerve as before we will get a greater contraction, showing increased nerve force; open the circuit, and in a short while the induction shock will be found to produce the same or less contraction than when first used; reverse the above conditions, and it will be found that the contraction will be less after the application of the galvanic force, than before. The amount of the increase and degree of modified irritability is dependent on the strength of the force; the stronger up to a certain point, producing a greater effect, also on the condition of the nerve, the more irritable better conditioned nerve being more affected by the same force.

We also will find, that if the induction shock be applied on the extra-polar section, farthest from the muscle with an arrangement giving an ascending force, the contraction will be less or nothing, according as the galvanic force is medium or strong. This would indicate that there was an interference with the passage of the nerve impulse to the muscle, and will be found to be at the area of anelectrotonus.

These conditions of catelectrotonus and anelectrotonus occur at the making of a circuit. On the breaking they sooner or later disappear, depending on the strength and direction of the force; from this is deduced the law of contraction. The supposition is made that the nervous impulse occurs only by the rise of catelectrotonus and fall of anelectrotonus, not at all by rise of anelectrotonus and fall of catelectrotonus, and not at all by the persistent maintenance of either. Bearing in mind what these terms, anelectrotonus, catelectrotonus, express, and taking the muscle-nerve preparation detailed above, the explanation is readily seen; with it in the first arrangement, the cathode proximal to the muscle a descending force is exerted: the contraction will occur at the making, for here there is a rise of catelectrotonus or rise of nerve irritability with nothing between it and the muscle. In the reverse, or ascending force position, there will be a contraction, also at the making, provided a weak force is used, but less than before, on account of the impulse started at the cathode having to pass through the anelectrotonic area near the muscle; even here this would not occur if the anelectrotonic condition was as quickly produced as the catelectrotonic. The catelectrotonic condition being produced more suddenly, the relative power of these conditions at the making is in favor of the cathode, and the nerve impulse is sent along, but with less effect. With moderate force we get an impulse, both at the making and breaking of both ascending and descending applications, the fall of anelectrotonus here being able to originate the impulse. With strong force there is a making impulse with the descending application; with the ascending there is a breaking impulse only. Sometimes there is a tetanoid condition produced by the galvanic force that it is well to recognize. This condition is brought about at the making or breaking of the cir-

cuit, when the force has been long applied. Ritter, its discoverer, says that it develops most readily after an ascending application, but may exist after the descending. He states that it may be relieved by applying the force in the same direction as that which caused it. The opposite application will increase it. The above facts are in relation to nerve irritability. Muscular irritability is also concerned, and in most of its phases is similarly affected. The degree of modification in nerves and muscles is dependent upon the extent of tissue acted upon. Pflüger, from original experiments, demonstrated the above facts and promulgated the "Contraction Law." The nerve is excited at the rise of catelectrotonus and fall of anelectrotonus, but not by the rise of anelectrotonus and fall of catelectrotonus.

There are two conditions that affect nerve and muscle irritability from a physiological standpoint, and which directly concern us, namely, blood supply and functional activity, and which assist in bringing out the stimulating influence of the electrical force.

It is not necessary to quote extended remarks, but the points I wish to call to mind are the loss of irritability in muscle and nerve tissues by the influence of venous and the restoring power of arterial blood, the state of exhaustion in muscles and nerves, and influence of new blood on same. These factors pertain to living tissues, and, through the influences exerted by them in the application of the electrical force, must play a very important part, assisting the nutritive changes brought about during and after its application.

The chemical action of galvanic electricity is one of its qualities, which make it take rank as a powerful agent in diseased conditions. The chemical action of electricity may properly be considered a physical effect; and under this head I would mention the modification of endosmose and exosmose and the transference of the elements of substances from one pole to another. In the physiological process of osmosis the electrical force exerts a decided influence largely dependent upon the position of the poles. The process is so intimately connected with the next that it will readily be seen, namely, the transference of the elements of substances from one pole to another; while all the

above effects are concerned in the phenomena of electrolysis, the last is especially important.

This is accomplished by the galvanic force in organic or inorganic substances, living or dead. The elements of the decomposed compounds or tissue collect at the poles, the electro-negative at the positive pole, the electro-positive at the negative pole. The process is explained as follows.

Taking water as an example, consisting of H_2O , hydrogen is electro-positive, oxygen electro-negative. The decomposition commencing on the closing of the circuit, those molecules of water at the positive and negative poles will be decomposed into their elements; the oxygen of the molecule at the positive pole will adhere to the electrode, the hydrogen passing toward the negative; the hydrogen of the molecule at the negative pole will adhere to the electrode and the oxygen will pass toward the positive. This decomposition of the water into its elements, provided the force be strong enough, will take place in all parts of the water, through which the force is passing. The assumption is further made by physicists, that the atoms of hydrogen, for instance, that start from the positive electrode toward the negative, meet with atoms of oxygen coming toward the positive, and that a process of decomposition and combination goes on until each atom of hydrogen and oxygen has passed near enough to their respective poles, to be drawn to them, at the decomposition of the last molecule they form. This, if so, must be invisible, for the action is only seen at the electrodes, even when closely approximated, as any one can test in a water rheostat. If it was not so, it would seem reasonable that the globules of gas could be seen to pass in currents from one pole to another. Again, if not so, after long applications of the electrical force there ought to be some evidence of free gas in tissues living or dead. I have not been able to detect any such evidence except at the site of the pole. Therefore I am inclined to put my faith in this explanation.

The laws of electrolysis are as follows, electrolysis cannot take place unless the substance to be electrolysed is a conductor. The energy of the electrolytic action of the force is the same in all its parts, and is dependent upon the potential and quantity.

The same quantity of electricity decomposes chemically equivalent quantities of all substances which it traverses.

The condition best adapted for the electrolytic effect is a plentiful supply of liquid constituents, the more complete the saturation, the more extensive and effective the process. There is a distinction to be made between electro-puncture or electrolysis of tissues and electro-cautery or destruction of tissues. The first includes a very moderate quantity of the latter quality, while the latter has little if any of the first. The first is due to the chemical power of the electrical force, the last is a physical action entirely, and is due to the power under certain conditions, to generate heat; it is a process of burning.

From the foregoing facts, verified by many and able investigators, it would seem that the questions so often asked, whether it makes any difference which kind of electricity or which pole should be used in diseased conditions are of considerable importance. I have so considered them and discriminate in the selection. In doing so I have worked safely and effectively; in not doing so I have done damage and met with disappointment.

To the question as to how does electricity act, I think something of a definite answer can be returned, and in epitome would say that the action is explained upon the *stimulating tonic* effects produced in the *many and complex processes* termed *nutrition*. That is simply a stimulant I cannot admit, for I take it this implies a process in which energy, existent or reserve force, so to speak, is called upon and utilized, and that there must follow a state of depression or period of rest, in order that the energy used may be regenerated.

This regeneration may or may not occur dependent upon the ability or inability of the organism to appropriate to itself the material necessary for this purpose.

If the stimulant given is of such a character as to wholly use up the reserve with no opportunity of regeneration, cessation or death must be the result. This is stimulation of energy, pure and simple. Where the process is one in which energy is increased but the limit or capacity for action is not wholly utilized, there is still energy that can be utilized for regeneration.

This is stimulation of energy and function, and we see that the

stability of energy is dependent upon function. In this form, the more nearly an equilibrium can be established between energy and function, do we see that most desired; for every impulse of energy will create a like impulse of function; functional activity of organisms increases with stimulation that is not sufficient to overpower," hence, energy, if applied to function within these limits will increase both; both increased, tone is the result, the first absolutely dependent upon the last. This, I understand to be *tonic stimulation*. We speak of alcohol as a stimulant, consider, that in certain doses it is a stimulant of energy and function, in larger or lethal doses a poison; and yet this is not all. When given under certain conditions, it will assist in restoring an organism to a normal state. If used in other conditions it will restore energy for the time being, and afterward a state of depression sets in; it is again needed, again depression follows, and this *ad infinitum*, until the organism becomes dependent upon its effects. It goes still further day by day, week by week, this dependency increases until finally a state is created in which stimulation to energy has diminished function and cessation or death is the result. This argument can be applied to all the known stimulants, outside of what are classed as foods, in our armamentarium. It shows there is such a nicety of calculation needed in the use of stimulants that it is doubtful if we possess the ability to use them so as to get *tonic stimulation*. In diseased conditions, where there are interferences with energy and function, anything but tonic stimulation is not proper; certainly if we can get any means which will have the effect of restoring organisms to a normal vitality with a minimum of drain upon their already lowered state, we will possess a desirable remedy. This leads to the pertinent question, "Does electricity possess this power? In reply I will venture the statement that, *Electricity meets this need more completely than any other known single remedy in the list*. In illustration of this and for the sake of clearness it may be well to take a familiar example and see the result, namely amenorrhea due to want of proper co-ordination of energy and function. To meet this condition we will take that class where the difficulty is in a want of

development of the uterine body and mucosa, with fair development of the ovarian tissue. It is necessary here to produce a plentiful blood supply, a blood supply that will have a strong tendency to produce growth, venous: a functional activity of the elementary tissue composing the uterine body and mucosa, is also needed. Back of all this, in order that the result may be maintained, there must be a general effect and influence creating reserve energy until the point is reached where energy and function are in equilibrium. Bearing in mind the qualities and effects mentioned in the physics and physiology of electricity, this does not seem impossible. To accomplish this I would use the electrical force as follows: the positive pole on or in the uterus, the negative alternating, on the abdomen and sacro-lumbar region; using in the first part of the séance a continuous force, the latter part a broken one. The action is as follows: The area about the positive pole is thrown into a state of anelectrotonus, the central ganglia are thrown into a state of catelectrotonus. Through the vaso-motor nerves the circulation is increased locally, and the result is a pelvic congestion known by the sensation of heat and weight in the pelvis. Persist in this until the result is well marked, then break the force; muscular contraction and nerve impulse, we see by the "contraction law", occur at the fall of anelectrotonus on breaking of application. This would occur at the time we most needed it, after the tissues had been saturated with the blood supply. The general effect must come through the sympathetic. In women this is not hard to see when we call to mind the intimate relation that exists between the pelvic tissues and her entire body. In this lies the *unknown quantity* life, vitality, those complex processes called nutrition. It would seem reasonable to say that many of the demands on our remedy had been met, and still has a single element or influence been left by the action of the remedy, which it is necessary to overcome, or that will have anything but a life giving influence. There is no depression but increased vigor and tone, *tonic stimulation*. *I imply here that the physiological action of electricity has not been continued so far as to produce the pathological.*

Here we see that the position of the poles, the constant and interrupted force, plays a very important part.

The effects upon the general condition of the patient are marked, and are seen in the appearance, increase of appetite and weight, condition of bowels, in rest and sleep, relief of pain and ability for exertion. Even in those cases in which the local condition has indifferently improved, these general effects are decidedly manifest.

My use of electricity has been an experimental one. I have made it work singly, in combination with the hot douche, and with drugs to get its value, and in all of the methods used have obtained results satisfactory and positive.

I do not mean that all cases have made satisfactory progress, because they have not. I have failed in some, many have made indifferent progress, the majority have done exceedingly well. In others I have had to abandon it as being injurious. I think the great value of electricity will be in chronic cases.

I have used and do use it in acute inflammatory conditions, puerperal and non-puerperal, with good results. As a method of treatment, I cannot call it a delightful one to the patient; but it is interesting to note how quickly women, nervous and fearful at first, become able to receive it, and do so without unnecessary complaint.

The dangers and accidents that have resulted from its use in my hands have not been many, but of such decided character that I feel satisfied they were directly due to its use.

Inflammation, hemorrhage and nervous conditions analogous to shock will cover the list.

I do not propose to consider any of those wonder-inspiring phenomena so often proclaimed by those who would make capital of astonishment, or allow enthusiasm to warp reason and judgment, but desire to confine myself to that which can be explained and easily understood.

I make the broad statement that electricity cannot under any known condition or form produce any result that cannot be explained by the process of nutrition. The moment we step over this limit we, in the present state of the medical mind, place electricity in relation with the mysterious and unknown, give it back to the methods of the charlatan, and its true value is depreciated. We should interpret results with such rigid scrutiny

that it can be said every known test has been made, and the result is, as it is. Because two, three or six applications of galvanism made to a case of hyperplasia of the uterus, result in a statement of the patient that she feels perfectly well, is not a sufficient proof of the fact she is well. I must confess that my observation of cases which have left the hospital apparently well has, in the majority, ceased on their discharge. I can safely conclude that probably they have been greatly improved, or some of them, at least, would have returned. Many of my cases feeling so well, get the idea that I am "experimenting" with them, and insist on going out before I am satisfied it is safe for them to do so. Several have come under my observation afterward, and I have been highly pleased at the continued improvement and recovery they have made without further treatment. All of the cases treated have been hospital patients, affected by the debilitating and unhealthful influences that surround this class of cases.

The methods used in applying the electrical force have been determined by the object desired and extent of tissues to be directly affected, one or two poles internal or external, as the case may demand. In electro-puncture, when satisfactory, the needles have been preferably placed in the uterine tissue, when necessary through the vaginal wall. In this method the danger met has been hemorrhage by opening some of the venous sinuses, and nervous symptoms. I have had no inflammatory ones. In two cases the tampon was required. The hemorrhage can be largely avoided by using needles insulated to within a short distance from the point. In the other methods I have had nervous conditions that were not pleasant. In using the galvanic force it is necessary, when the electro-caustic effects are not desired, to have the electrode properly covered with sponge or chamois. In the cases presented my object is to illustrate the methods of application and result, which I believe the electrical force brought about, and where no mention of drugs is made the inference is that it has worked alone.

PELVIC CELLULITIS OR PARAMETritis.

Case I. S. W., American, æt. 37, mother of four children, three miscarriages; age of last child eight years, from which time she

dates her present trouble. Admitted July 27, '85, for cancer of uterus. Examination reveals a laceration of right side of cervix, up to internal os; emaciated, anemic to an extreme; edema of legs and arms.

October 6, 1885, Emmet's operation for laceration resulting in union. Three weeks after operation patient, through her own indiscretion, was attacked by a severe and protracted parametritis. On Dec. 9, 1885, examination revealed an enlarged and tender uterine body, pushed over to right side; mobility slight; on left side in broad ligament is found a deposit as large as a goose egg, extending posterior to cervix into Douglass' cul-de sac, easily felt from above through abdominal walls, hard and tender; stools give pain. December 19 reveals this lump extending up out of the pelvis, to within one and one-half inches of the umbilicus, extending over the median line from the left, smooth, hard and tender, with some mobility; per vaginam; the uterus is still farther pushed over to right, fundus lying against the bone; the entire space to left of uterus is filled with this enormous exudate. Examining per rectum the calibre of the gut was narrowed by deposit, and exquisitely tender to touch; general condition of patient very poor, and she suffered much pain. From December 19, 1885, to February 26, 1886, she received half hour séances of galvanism, cathode in vagina, anode over abdomen, every third day, with the hot douche daily. At end of this time the exudate was reduced one-half in extent; entire relief of pain after first two weeks, regular and normal menstruation, general health excellent, and able to do considerable work. March 1, 1886, electro puncture was resorted to; the needles were carried from one and one-half to three inches into deposit, through the vaginal walls; from this time until Aug. 19, '86, twenty-five séances were given in this way, with a force of from 12° to 20° deflection of the galvanometer needle; during this time she was affected with two severe attacks of tertian malarial fever. At the time she left the hospital the deposit was of the size of a Bantam's egg, situated in the broad ligament and toward the fundus, shading off toward side of pelvis. The uterine body was normal and in good position; mobility fair, and pain was only excited when elevation put left ligament on stretch; rectum and posterior part of pelvis free of deposit; general condition excellent, and she could "out-quarrel" any patient in the hospital.

Yesterday I received the following report from Dr. McLean, my

former assistant, who was familiar with the case and examined patient a few days ago: "Mobility of uterus fair; the lump in upper part of broad ligament entirely gone; an exudate is still left in lower part of broad ligament, extending from left side of cervix, which is drawn to this side. Per rectum the posterior part of this can be reached, and is found to be confined to ligament. The puncture tracks can be felt, and the openings of some of them are granulating. No pain; general health excellent, strong and able to work."

CASE II.—C. P., aged 26, American, widow, servant, mother of three children. One miscarriage seven years ago, from which she dates her sufferings; two deliveries were instrumental, followed by illness, with sufferings similar to her first attack after the miscarriage.; has been under medical care most of the time, having in these seven years had only one year of fair health. Weight before miscarriage 160 pounds. Entered hospital March 8, 1886. Anemic and bed ridden, complaining of heavy, sharp pain in left iliac region, also in right side; pulse feeble, 90 to 100; temperature 99 to 101° from A. M. to P. M.; skin dry; anxious expression; tongue heavily coated; bowels constipated; diffused tenderness over lower part of abdomen, maximum in left side; tympanites; per vaginam, vagina strictured, finger only passing $1\frac{1}{2}$ inches. Cervix found pressed against symphysis, flattened and lacerated; difficulty in passing water; deposit found in all directions right and left; fundus retroverted and imbedded in exudate; fluctuation detected two inches from posterior commissure, in recto-vaginal wall: per rectum, fluctuation readily felt lower down; deposit occupying the entire extent of pelvis from below; feces flattened; an aspirating needle was passed, and 70 cc. of pus withdrawn; cavity washed out with boric acid. This gave relief and cavity did not refill. Electro-puncture was used in conjunction with hot douche and tonics. From March 15 to April 7, 1886, five séances were given of ten minutes each, with a force of 16° to 20° deflection. The conditions at the end of this time were as follows: Uterine mobility considerable; speculum easily retained at proper depth; palpation through abdominal walls reveals nothing but fundus in normal position; Douglass' cul-de-sac free; broad ligaments considerably thickened. Per rectum, calibre of gut normal; pain only when tension is put on ligaments; menses from April 1 to 5, 1886, with no suffering; appetite color and strength "better than for years"; increase in weight, five pounds.

CASE III.—P. G., æt. 17, Irish, prostitute, sick three weeks, suffering in lower part of abdomen, with acute, shooting, throbbing pains; tender to touch, tympanitic, very much prostrated; no appetite, nausea and vomiting; temperature, 99° to 102° from A. M. to P. M.; pulse 120. Examination reveals hot vagina exquisitely tender in uterus and pelvic roof; both broad ligaments thickened and doughy; a deposit, size of goose egg in Douglass' cul-de-sac, pushing the cervix forward; very sensitive; hot douche, morphia, turpentine stupes, liquid diet. Patient made indifferent progress for ten days; pulse 100, temperature 101°, when first application of electricity was made. From May 4 to 27 five séances were given; the needles were passed into deposit through cervix; five to seven minutes séances with a force of 12° to 16° deflection. May 27, the following was observed: No pain, this ceased after second séance, deposit in Douglass' cul-de-sac as large as end of index finger; broad ligaments normal; mobility normal. As far as her feelings and my sense of touch is able to determine, there is nothing left but small remnants of her cellulitis in Douglass' cul-de-sac. In this case I had to do with pelvic peritonitis also.

HYPERPLASIA OF UTERUS.

CASE I.—M. B., æt. 22, American, prostitute, admitted May 6, 1886, mother of one child born August, 1885, since which time she has had dysmenorrhea. For the last three months she has been suffering from severe pelvic pains, agonizing during flow, coming on seven days before, and gradually going away after, free, persistent leucorrhea. Examination reveals a large, tender uterine body, depth three inches, position good; both broad ligaments thickened and tender; mobility limited; dyspareunia for past two months. Only moderate improvement being made with ordinary methods electricity was first used May 21, 1886. She was using .025 grams, ($\frac{1}{4}$ grain) of morphia three times a day for pains; after second application the morphia was stopped. From May 21, to June 3, 1886, six séances were given, electro-puncture, negative pole at uterus, thirty interruptions to min., 14° to 18° deflection. The result was a follows: Uterine body two and a half inches in depth; no tenderness, size normal, mobility free, ligaments normal, no pain, appetite, strength and sleep as good as ever, insisted on going out.

CASE II.—M. G., admitted Sept. 8, 1885, aged 33, German

mother of four children, age of last six years; had present trouble nine years; muco-purulent leucorrhea; a large and hard uterine body, prolapsed, cervix at vulva; laceration of cervix, uterine depth $4\frac{1}{2}$ inches; retroversion.

From Sept. 8, to Oct. 13, 1885, tonics and hot douche. Emmet's operation on cervix was made Oct. 13. On Nov. 30, 1885 she left the hospital, with uterine depth of $3\frac{1}{2}$ inches, body still hard and large, held in position with pessary. She returned Mar. 9, 1886 with pessary in position and properly supporting uterus, uterine depth 3 inches, body large but not so hard.

Mar. 12, 1886. first séance electro-puncture given. From this to April 16, 1886 ten séances were given with the following result: uterine depth $2\frac{1}{2}$ inches, body of normal consistence and size to touch. Pessary was removed on readmission and not again used. This patient had chronic bronchitis; and the only medication given was for this. The marked improvement from time of her first discharge, to which time she had had no electricity, to her return, is worthy of note. She has been in hospital since last time, and her recovery still persists.

CASE III.—A. D., aged 30, prostitute, has tertiary syphilis and is a chronic drinker; has had several miscarriages. Examination reveals a uterine body slightly enlarged of $2\frac{1}{2}$ inches in depth, of a stony consistency, tender, has had constant pain and dysmenorrhea. Has been in hospital frequently, and has had only temporary relief. Electro puncture with needles, first time March 1, 1886. Two séances were given from March 1 to April 30, 1886, potassium iodide and hot douche. The improvement was marked, the consistency became normal; no tenderness, size normal, menstruation normal just a few days before discharge. She is in the hospital at present writing, Nov. 1, 1886, and reports she has had very little pain and only at menstrual period. Examination reveals normal consistency, no tenderness.

PERI-UTERINE HEMATOCELE.

K. M., aged 20, servant; admitted July 9, 1886, was suddenly taken sick while menstruating, became faint, nauseated, and compelled to go to bed, with severe sudden pain in pelvis: said she felt as if something had broken; flow ceased. Examination reveals a doughy, slightly tender swelling in Douglass' cul-de-sac, pushing the uterine body up and forward. The cervix is in a plane,

anterior to fundus; fundus lying on tumor; tumor intimately connected with uterus and shades off into both ligaments; is movable with uterus to a limited extent; hardly any pain. Hot douches were used until July 20; progress being very slow. Electrolisis with needles was used. From July 20 to Aug. 20 eight séances were given. From July 22 to 25 she was menstruating. On Aug. 19, nothing could be found of the hematocele.

ACUTE PUERPERAL METRITIS AND CELLULITIS.

F. S., æt. 19. Delivered Dec. 4, 1885; contracted septicemia which developed Dec. 6. December 11 she presented the following conditions: expression drawn, anxious with fear of disaster, tongue dry, covered with dark sordes, tremulous; hiccough, pulse 120, temperature, 103°. Examination reveals uterus large, extending within an inch of umbilicus; very sensitive to pressure and hard; lochia scanty with little odor; tympanites. Per vaginam, os patulous, entire pelvis filled with enlarged uterus and doughy exudate about it, very sensitive: Sensitive spots in right thigh over saphenous vein. Feeling my patient was sure to die, as a *dernier ressort* I used galvanism. A large sponge electrode (anode) was applied to the sacro-lumbar region, the negative on uterus through abdomen. After a few moments, patient stated, this produced a feeling of warmth and slight bearing down pains. This method was continued 15 minutes; the cathode was then introduced in the cervix and the force used ten minutes longer.

The result was a decided decrease of tenderness over abdomen, with uterus perceptibly smaller and hard. She felt comfortable; tonics, stupes and morphia, as needed, were administered. At 3 p. m. a diarrhea began; at 1 a. m. was called and found patient in a state of partial collapse. She was revived. At 2 a. m. was again called, but patient not so bad as before, was revived, and diarrhea checked. The next morning at 9 a. m. she was decidedly better, pulse 108 and good; hiccough ceased, only opiates (2 cc. tinct. opii camph.) to be used in diarrhea when needed. At 7 p. m. second séance was given for return of pain. The effect was decided and soothing. At 9:30 p. m. was called, and found her again approaching collapse. Hypodermic of whiskey revived her; some pain; gave morphia. At 12 p. m. resting, and pulse 108.

The next day pulse 106; temp. 99.6°; no diarrhea and slight pain. Lochia free and purulent.

Dec. 13. Thirty minutes séances; pulse 102, temperature, 99.8°; stronger; p. m., temperature normal; no diarrhea.

Dec. 14. Patient says she is well, and wants something to eat, tongue cleaning, uterine body better and smaller, tenderness gone and no pain. From this on electricity was used in thirty minute séances each day; steady and sure progress was made. She had from Dec. 11, '85 to Feb. 16, '86, fifty séances or twenty-five hours of electricity. At this time there was nothing wrong in pelvis, but a laceration of cervix; uterine depth two inches, position normal, no adhesions or remnants of inflammation left.

The limits of this paper will not allow the presentation of any more case records. In those reported, while they are classed under certain heads, they are complex and show results.

In all of the cases reported the negative pole was internal. At first sight this may seem hazardous, but I have not found it so.

I think the wrong idea is too often received in this respect. It is called the irritating pole. The word, irritating, is the stumbling block; stimulating is the proper word, and this should be understood to be tonic stimulation.

If this is our conception we see that it is a process, if properly handled, that does nothing but bring the tissues affected up to a higher grade of vitality, and the result must be for good. That irritation which produces inflammation is productive of, or is due to, lowered vitality. The scratch of a pin on the hand produces lowered vitality. The application of the electrical force produces true increase of vitality, and this is followed by no deleterious effects. I know of nothing in the use of electricity that, if properly used, will do harm, unless it be in the electro-puncture method, and here I think it is due to the mechanical effects produced by the elements of substances left at the site of the poles. I am of the opinion that the good effect is aided by the production of an area of anemia; certainly, there is a fall of temperature. In two cases of stricture of the rectum the following observations were made with a Hicks' certified register, indestructible index thermometer in the rectum:

Case I. First observation, temperature before séance, 100.5°; after, 99.7°; three hours after, 98.8°. Second observation, before, 99.8°; after, 99.2°; three hours after, 98.5°.

Case II. First observation, before, 100°, after, 98.8°; three hours after, 99°: Second observation, before, 99.7°, after, 98.6°; three hours after, 98°.

The second observation in second case was with anode in rectum. All the others were with cathode. The thermometer was left *in situ* the same length of time, five minutes, at each observation, and held with bulb down to avoid influence of gravity.

If it were possible to have all gynecological difficulties in women who, physically, in equal degree, were perfect, the results of treatment would be alike in all cases. Unfortunately this is not so. Diathesis, constitutional state and physical abuse produce conditions that vary from mild to miserable, and our results in progress and recovery must vary accordingly. These are general effects, and are very happily met in the general influence of the electrical force. I think no one will question the statement that the process of menstruation is largely dependent upon the general state of the body. Electricity certainly has a very marked effect upon this function; it will regulate and restore it in most cases as certainly as it is used. They are the most satisfactory cases to treat that I have had.

In chronic endometritis the results are excellent. Safety and effectiveness are sure. The dangers of the use of liquids and unsatisfactory execution with cotton and probes do not exist with it.

I have had two opportunities of examining the puncture tracks in electro-puncture post mortem, in one two months after last application, the other a few days after. The first, a case of hyperplasia uteri in which fifteen punctures were made, the needle being carried in two inches. The uterus was of normal size and consistence, with proper thickness of its walls. The last two puncture tracks were readily seen, four others only faintly so, the others not at all. The last track could easily be opened, being only agglutinated together; the second was more firmly united; the third still more so, and could only be opened a half inch up. The four faint pits could not be opened at all. In none of these were there to the sight or touch any evidence of a cicatrix, nor any granulations. The appearance was as if the walls were united by a plastic material at first and then be-

came organized into normal uterine tissue. The other case was a uterine fibroid, patient dying of an intestinal trouble, not connected with the uterus. I made an application, passing the needle in three inches. I did so to be able to examine the puncture track when she died, as she had only a few days to live. Death occurred seven days after application. Examination of the track revealed a light gray area $\frac{1}{8}$ inch in thickness, the entire extent of the track. The puncture passage was agglutinated: there were no granulations except at site of mucous membrane of vaginal wall. The track seemed to have been made by a separation of the uterine fibres.

I prefer to have you, gentlemen, draw your own conclusions. I submit the above for your consideration, and thank you for your attention.

THE ACTION OF THE CONSTANT GALVANIC CURRENT, ESPECIALLY IN THE TREATMENT OF STRICTURE OF THE URETHRA.

BY DAVID PRINCE, M. D., JACKSONVILLE, ILL.

Abstract of Remarks made at the Central Ill. Dist. Medical Society in Springfield, Oct., 19, 1886.

THE galvanic force is conceived of as partially decomposing the tissues, sending the oxygen and the acids toward the positive pole as applied to the surface of the body, while the hydrogen and the alkalies go in the opposite direction or to the bougie introduced into the urethra or to any other metallic body introduced into any other part.

When this decomposing agent acts in a moderate degree of intensity, the tissues are not destroyed but are rendered more yielding, so that cicatricial material which is ordinarily unyielding, acquires the property of expanding before a moderate force.

In the treatment of stricture of the urethra by this agent, an ordinary steel bougie is introduced as far as it will go.

It is better to employ a size that will enter the stricture a little. It will rarely be necessary to employ a size smaller than No. 12, French scale.

The positive pole (connected with the copper or the carbon) is made to occupy such a position on the surface of the body as will afford a shorter line to the point of the bougie, than to any other part of it. The sacrum is the place, therefore, for the positive pole which may consist of a sponge or of a wet napkin upon which the patient lies in a semi-recumbent position.

It is not necessary to insulate the bougie, as by the arrangement of the sponge on the sacrum, the resolving force crowds toward the point, where it is needed to act upon the solid tissue. A failure to pass the instrument is not considered a failure in treatment, as the softening influence is found to last several days, and an instrument may pass in three days, which failed to pass in the first treatment.

The statement of the strength of the constant current best adapted to the purpose is one which is uncomfortable to the hands when holding wet sponges as terminals of the wires which convey the current. These sponges should be as large as can be conveniently grasped by the hand. In use, the negative sponge is placed upon the heel of the bougie, or the sponge is detached from the wire and a metallic connection is secured. With a current of a strength here indicated, ten minutes should be considered a sufficient length of time for one sitting, though a much longer period has been occupied without injury.

It should not be the ambition of the operator to get through the first time.

It is better to try again the next day or the day after. It is sometimes found that though the instrument may fail to pass, the patient finds an improvement in the readiness with which the urine gets away. The relief of the spasmodic element in the obstruction may help to account for this.

It has been found that in a case of total cessation of the passage of urine through the penis for years, a short passage having been found through a fistulous opening, the urine passed to some extent through the natural channel after a first treatment which did not succeed in securing an entrance of the bougie into the bladder.

A battery of 60 cells of the LéClanché style will furnish a current strong enough for this purpose if kept in good order.

It is believed that no stricture needs to be cut unless it is one following an injury in which the healing has taken place with a detachment of one portion of the urethra from the other, and this condition would, of course require to cut down upon the stricture from without, to find the detached ends, and to bring the two parts of the tube into line, when it must be held for a time by an instrument retained in the urethra.

[The method of employing the galvanic current was illustrated by a drawing, of which the accompanying cut is a copy.]



In the employment of the galvanic current for all resolving purposes, the negative pole is used. When, however, the current is used for hastening the healing of ulcers and the dispersion or solidification of neoplasms manifesting spongy growths, the positive pole is employed. The entrance of the current is distributed over a considerable surface by means of a wet sponge or other convenient soft substance.

Some growths manifesting the power of returning after excision have been suppressed by this agency.

The employment of the current in the treatment of mother's marks and cancerous congenital developments, or aneurism by

anastomosis, must be on a different principle. The current must be intense enough to destroy the tissues, hence the force is concentrated upon needles which are introduced into the tissues; and between the points of the needles, the tissues are intimately torn by the chemical breaking up of the molecules in the development of the hydrogen which goes to the negative pole and the oxygen which goes to the positive needle. If it is desired to avoid the deposit of the carbon of the decomposition as a black foreign body upon the needle, a platinum needle should be employed on the positive side.

TYPHOID FROM A SINGLE DOSE.—M. Dujardin-Beaumetz has forwarded to the Paris Academy of Sciences a communication on the Pierrefonds typhoid cases last summer. M. Fernet, who occupies a high post at the Ministry of Public Instruction, his wife and family hired a house at Pierrefonds, a fashionable resort near Compiègne, contiguous to two others. After they had rented it for the season they were told to beware of the water in the well. On this account they drank exclusively mineral water until the last day, when the stock was out, and the servants were too busy preparing to return to Paris to fetch some bottles from the chemist. Madame Fernet said, "For once surely there can be no harm in drinking the well-water." They drank it. Six out of the nine persons have since died, including one of the servants. The cook, two of the four children, and Madame Fernet had had typhoid fever before, and though attacked again by it after their return from Pierrefonds, have got through the illness. The well has been examined, and is reported to contain the bacilli which are believed to be associated with typhoid fever. This is a common danger to which visitors to so-called health resorts, both on the continent and at home, are frequently subjected. The facility with which well-water is infected is hidden by the impunity with which filthy well-water may often be drunk by resident families who have become acclimatized, especially when that water is for the moment infected only by non-poisonous fecal matter, and this fancied immunity often leads to habits of carelessness, for which not only themselves but their visitors have to suffer.—*Med. News*, Dec. 11, '86.

CASES FROM PRACTICE.

FOREIGN BODY IN BLADDER OF A CHILD.

BY W. W. BAILEY, M. D., FORT SMITH, ARK.

In the early part of October last Mr. and Mrs. C., residents of the Choctaw Nation, called at my office with their little daughter aged five years. The parents informed me that about two weeks previously the child had told its mother that she had pushed a piece of green cotton stalk up through the urethra and into the bladder. The father discredited the story of the child, but the mother believed it to be so, as she informed me that her little girl had never deceived her. Shortly afterwards the little one complained of a difficulty in urinating, and also pain along the course of the urethra.

Several local physicians were consulted, who were unable to detect any abnormal condition of the vulva, urethra or bladder, and gave as their opinion that the child's statement could not be true; one of them prescribed a diuretic, which was given up to the time that they consulted me. The difficulty in urinating continued, notwithstanding the effort of this physician to control it. The mother not being satisfied with their diagnosis, insisted upon bringing her daughter to me, which they did. After a cursory examination I found the bladder distended. The vulva was so hyperesthetic and the child so alarmed, I was unable to examine further. With the consent of the parents I decided to place her under the influence of an anesthetic for a more thorough examination. For this purpose I called to my aid Dr. G. Sintgill, of this place. When she was thoroughly anesthetized I passed a Nelaton's probe through the urethra into the bladder, and while sounding struck what felt to me like a stone.

Being thoroughly convinced of the presence of a foreign body, I lubricated a Tait's hemostatic forceps, and introduced the point into the meatus, gradually dilating and passing it along until well within the bladder, when, after a little patient manipulation, I was enabled to seize the foreign body, and having locked the forceps, I began to extract. Soon to my delight, as well as that of the parents, one end of the doubted cotton stalk made its appearance, and the rest followed quickly. It was covered with a phosphatic deposit which gave to the probe the feeling of a stone. It was three and one-half inches in length and slightly larger than a large broom straw. The child in a short time recovered from the effects of the dilatation of the urethra, and the difficulty in urinating ceased also.

EDITORIAL.

RABIES AND ITS PREVENTION.

The recent report in the morning papers of the death from rabies, of a young lady in our city as the result of a bite from a Spitz dog, which itself had not at the time exhibited any evidences of the disease nor has since given any such manifestation, gives new and special force and interest here to the observations and experiments of M. Pasteur which have attracted so much attention in the scientific world in the last year or so.

In the *New York Medical Journal*, Oct. 23 and 30, Dr. Valentine Mott has a paper recording the result of his own personal observations in Paris in the laboratory of M. Pasteur.

Dr. Mott objects to the word hydrophobia as calculated to convey an incorrect impression as to a special feature of the disease. There is no dread of water. It is rather a shrinking from the effort to swallow, which causes intense suffering in many, probably in most cases. In other cases animals unquestionably suffering from rabies drink freely, and it must not be assumed, therefore, that because the dog drinks water a person bitten by that animal is certainly free from danger. Dr. Mott thinks it would be much better to designate the disease as rabies. He regards genuine rabies, when once manifested, as almost invariably fatal; and thinks that those cases reported as cured are probably in reality cases merely of "pseudo-hydrophobia"—the result of an overwrought imagination. The diagnosis between true and false rabies is not easy, and may be impossible except by inoculation tests upon rabbits or dogs.

Dr. Mott regards the question of spontaneous origin of rabies in the dog as being yet unsettled, but thinks that the weight of evidence

favors spontaneity. Season has little or no influence in the development of the disease, and, contrary to the common view, it prevails quite as much in winter as in summer.

He condemns as utterly false the statement that only male dogs are subject to the disease, instancing a case in which a whole pack of female hounds was attacked by it.

In any case where a person has been bitten by a dog which it is suspected may be mad, the animal should at once be confined and carefully watched, so that people may be relieved of their suspense should the dog prove to be not mad. If the animal is suffering from rabies, its death will be certain to occur within ten days, generally on the fourth or sixth day after the appearance of the first symptoms.

The following are the symptoms of rabies in the dog: At first there are no violent symptoms but rather more than usual demonstration of affection, licking the hands and face of those to whom he has been attached. Even at this time, however, the saliva is poisonous, and may inoculate the person who is the recipient of these caresses. Soon the animal grows morose and sullen, tries to hide away, becomes restless, and has a far away look in the eyes, and snaps and barks at imaginary things. The desire to bite soon develops and manifests itself first against inanimate objects, pieces of wood, stone, matting, rugs, etc. These form a mass in the stomach which is regarded as one of the post-mortem characteristics of rabies. It now seeks to escape from home and run about, its rage being specially aroused at the sight of other dogs. The voice is peculiar, somewhat resembling the crow of a cock. There is no fear of water. There may or may not be foaming at the mouth. There is a marked and peculiar insensibility to pain in this disease. Dogs will bite themselves and will give no sign of suffering, or even grasp and hold a red hot poker.

Periods of calm succeed these paroxysms of rabid frenzy which recur with increasing frequency, while the dog worn out with the paroxysms and fighting, still staggers along with tail drooping be-

tween its legs, eyes wandering and head rolling from side to side, with mouth open and tongue protruding, until at last it lies down and dies of asphyxia and paralysis.

"Dumb madness" rarely affects dogs, though occurring in ninety-nine per cent of cases where rabies is communicated to rabbits by inoculation. Its characteristic is paralysis.

In the human being the first symptoms seem to be a peculiar itching of the old wound and neuralgic pain spreading from the wound toward the nerve centres. There is general malaise and sense of impending evil, tightness about the throat and dysphagia. Breathing is affected, and there is oppression over the whole chest. Then follow violent paroxysms which may be determined by a ray of light, a puff of air, the sight of water or an attempt to drink. Ropy, viscid mucus is secreted by the salivary glands, and frequently expelled from the mouth. Hallucinations occur and wild delirium. In the intervals the patient is often calm and rational, and in many cases, feeling a paroxysm approaching, will beg to be restrained so that he may do no harm to others. The period of incubation varies according to various authorities from five or ten days to fourteen months in the dog, and in the human being from two days to four or five years, the ordinary period being about six weeks.

As to prevention, Dr. Mott advises the cauterization of a bite with nitric acid in preference to carbolic acid or nitrate of silver, either of which may be used if the former cannot be promptly made use of. The bitten part may then be excised, and the wound again cauterized.

Dr. Mott recounts briefly the course of development of M. Pasteur's studies which led to the development of charbon inoculation of sheep, and later the experiments with rabies, the discovery of the different degrees of intensity of the virus in different animals, and the remarkable facts of the progressive increase of intensity of the virus [from one rabbit to another and decrease by transmission through monkeys.

We some time ago, January, 1886, gave our readers an account of M. Pasteur's experiment on rabbits and the first trials upon the human subject. On another page of this issue a correspondent describes, somewhat at length, M. Pasteur's methods, which in brief depend on the following observed facts:

1. The poison of rabies is specially localized in the spinal cord.
2. By repeated transmission from one rabbit to another through a considerable series the period of incubation, which at first is fifteen days, may be reduced to seven or even six days.
3. Short pieces of cord suspended in sterilized jars in which the air has been rendered dry by means of caustic potash in the bottom of the jar, gradually lose the intensity of their virus.
4. Animals or man may be rendered refractory to the poison of rabies by inoculating first with a virus which has so far lost its intensity as to be incapable of producing marked symptoms, and then successively with virus of greater and greater intensity until finally an inoculation is made with a virus which if introduced into the system when not at all protected would have produced rabies, they being thus gradually accustomed to the stronger virus. The ordinary period of incubation after a bite by a rabid dog being six weeks, it is possible by inoculating with the more quickly acting virus from rabbits to anticipate and prevent the development of symptoms, even when the inoculations are not commenced until after the animal or person has been bitten by a rabid animal. Pasteur now begins with fourteen-day-old virus and ends with five-day-old, one inoculation being given every day.

The method of introducing the virus into the system is by rubbing up a very small piece of the cord with sterilized broth and injecting it under the skin with a hypodermic syringe.

While the results of the inoculation of persons bitten by rabid animals have not been invariably successful, the results have been such as to afford great reason for encouragement, the percentage of deaths among those inoculated being very much less than in those not so protected. In eighty-four cases of persons bitten by

mad wolves and afterwards treated by M. Pasteur, seven died, or 8 per cent, while ordinarily 66 per cent of those bitten by rabid wolves have died.

Dr. Mott states that last April, while visiting in Paris, as the representative of the American Pasteur Institute, he had the opportunity of witnessing all the details of M. Pasteur's process, being most kindly received by the distinguished savant and his assistants. On his return he was presented with a rabbit inoculated that day. Preparations of the spinal cord of that rabbit have been made, and inoculations of other rabbits have been carried on continuously. He has successfully treated a number of cases of human beings who had been bitten by mad dogs, and has also inoculated himself as a prophylactic measure. Many points of great interest in regard to this matter of protection against rabies remain to be elucidated by further study and experiment; but enough has already been demonstrated to encourage the belief that the distinguished French savant has really succeeded in furnishing a reliable and efficient protective measure against this terrible disease.

The latest modification of his treatment, as reported to the Academy, involves the introduction of the virus in increasing intensity much more rapidly than at first was held to be necessary. "The first day", he says, "we inoculate with cords of the twelfth, tenth and eighth day at 11 A. M., 4 P. M. and 9 P. M.; the second day we use the cords of the sixth, fourth and second day, at the same hours; the third day we inoculate with cords one day old. Then the treatment is repeated; the fourth day with cords of eight, six and four days; the fifth day with cords of the third and second day; the sixth day cords of one day are employed; the seventh day, cords of four days; the eighth day, cords of three days; the ninth day, cords of two days; the tenth day, cords of one day. Three treatments, occupying a space of ten days, are thus pursued, each treatment ending with the freshest and most virulent cords.

Having followed out this intensified treatment in the cases of ten children severely bitten about the face and head, with the result

that they have remained free from symptoms of rabies, while it is a rare thing that children so bitten and remaining unprotected, have escaped having rabies within four to six weeks, M. Pasteur thinks that their present condition is evidence of permanent protection.

In regard to this modified treatment, one cannot but raise the question, what advantage is derived in returning to the inoculations with attenuated virus, after having developed that condition of the system which is refractory to the intenser virus. If, in order to secure thorough immunity from the virus introduced by the bite of the rabid dog or other animal it is necessary more fully to saturate the system with the more rapidly acting virus from the cord of the rabbit than would be done by one course of inoculations of increasing strength, why would not this saturation be more thoroughly and more speedily accomplished by simply repeating on two or three successive days, the inoculations with the freshest cords? Thus having practised, as M. Pasteur now does, for three days, and having gained a condition of refractoriness which protects from effect of cords one day old, why not on the fourth, fifth and sixth days repeat the inoculations with cords one day old or less? Would not this secure in six days the same degree of immunity which is attained by the present plan in ten days?

LOCAL ANESTHESIA.

Dr. J. Leonard Corning published in the *New York Medical Journal*, Nov. 6, 1886, some observations upon a new method of producing local anesthesia without causing any pain as heretofore by hypodermic injections, etc. The plan proposed makes use of electricity for the purpose of introducing the anesthetic into the skin, but, as a preliminary to the use of the electric current, Dr. Corning first exsanguinates the part to be anesthetized with an Es-march bandage, applies a tourniquet and then removes the bandage. Then by means of an instrument similar to that of Baunscheidt, but

provided with a larger number of needles, he perforates the skin thoroughly throughout the entire zone which he desires to render anesthetic. This is done without causing any pain at all, and, owing to the exsanguinated condition of the skin, these minute openings remain open somewhat as in a dead person. A sponge electrode, saturated with a two-and-a-half per cent solution of cocaine, is now secured over this perforated portion of integument with an elastic strap. This electrode is then connected with the positive pole of a galvanic battery while the negative electrode is placed on the other side of the limb or upon some indifferent point. If now the battery is put in operation, and the strength of the current gradually increased until there is a slight but distinct sensation of warmth, the anesthetic begins to exert its influence at once, so that in the course of two to four minutes, there is such anesthesia as enables one to thrust needles into the part to a considerable depth without pain. The integument being so anesthetized, of course it is practicable to introduce cocaine into the deeper tissues by means of hypodermic injections, if desired.

Dr. Corning states that he has also induced painless perforation and anesthetization without previous exsanguination.

He has also devised an electrode with a reservoir in the handle to contain a quantity of the anesthetic solution, and so avoid the necessity of removing the electrode from the part for the purpose of moistening the sponge.

IODOFORM POISONING.

Frederick Treves gives in *The Practitioner* for October, some observations upon iodoform poisoning, dwelling particularly upon that form which is manifested upon the skin as an iodoform rash.

He divides the evidences of intoxication into two categories. In the first class of cases the symptoms develop slowly and insidiously with malaise, possibly some loss of strength, anorexia and occasional vomiting, and above all a sense of great depression. There is usu

ally moderate fever with unusually rapid pulse; sleep is disturbed, and there may be slight delirium at night. Headache is not uncommon. Later the patient becomes apathetic and disposed to sleep. Memory is impaired. He is melancholic and troubled by a sense of impending danger. Emaciation takes place, the tongue becomes dry and brown, and the "typhoid condition" becomes more and more characteristically developed. In the fatal cases the patient grows weaker and weaker and finally dies comatose. If the use of iodoform be discontinued, the patient may recover, even when these symptoms have persisted for some time.

In the other class of cases the development of symptoms is more rapid or even quite sudden. There is malaise, headache, vertigo, disturbed sleep, complete insomnia, excitement, delirium. Temperature may rise to 105° or 106° , and the pulse to 150 or 180. Albuminuria may be present, poor appetite and sometimes vomiting. Hallucinations develop, and even symptoms of acute mania. There may be tremors, stiffness of the limbs, convulsive movements, diplopia and irregular respiration. As in the other class of cases, though more rapidly, emaciation occurs, with increasing prostration and coma, followed by death. In some cases the symptoms have strongly resembled those of meningitis.

The former or chronic form of poisoning is most apt to occur in aged or debilitated subjects, the latter or acute form in younger and more vigorous patients. Of course it is not to be understood that all cases of iodoform poisoning can be distinctly placed in either one of these categories.

An eruption, due apparently to the constitutional effect of the iodoform, has been recorded in a few cases. In one case observed by Mr. Treves, there was a vesicular eruption, practically limited to the surface dusted with iodoform, which was followed by a papular exanthem of wide distribution upon the face, neck, chest and left forearm, arm and shoulder. The wound which was dressed with iodoform was on the left forearm. The eruption was in distinct patches of closely packed papules, all of less size than a pin's head

and set upon a pink erythematous base. The patches varied in size from a sixpenny to a half crown piece (a dime to a half dollar). They were irregularly round and ran into one another. The margins were clearly defined, and the patches were so elevated as to be distinctly felt as well as seen. Zeissl, Neisser, Goodell and Fabre have each recorded cases of iodoform rash, all very closely resembling that described by Mr. Treves.

In concluding his paper, Mr. Treves remarks that although iodoform is said to contain more than 90 per cent of iodine, the symptoms of iodism and of iodoform poisoning do not at all correspond.

As to the conditions of iodoform poisoning, as gathered from the recorded cases, it is found that the symptoms are the same when the iodoform is absorbed from the wound as when it is taken by the mouth.

It is impossible to state the poisonous dose as regards local application, as individual susceptibility varies remarkably.

Poisoning is more apt to occur in old and young than in middle-aged patients.

Symptoms may appear directly after the first application, or not until the powder has been used for weeks.

Absorption with poisoning does not seem likely to occur from recent wounds unless they are of large size, nor from wounds that are sloughing or suppurating profusely.

Conditions favoring iodoform poisoning are the following: (1) The wound is clean and granulating, and the powder is liberally applied. (2) The iodoform is introduced into an abscess cavity, or into a sinus or fistula or confined space. (3) The powder is applied under pressure, or is surrounded by a more or less impermeable dressing. (4) The drug comes in contact with a mucous surface, as is sometimes the case in dressing a colotomy wound.

HAY'S METHOD OF TREATMENT OF SEROUS EFFUSIONS

In *The Medical News*, Dec. 11, we find a lecture by Prof. Wm. Osler, in which, after citing a number of cases of pleurisy with effusion, he calls attention to the use of concentrated solutions of saline cathartics in the treatment of these cases, as advocated by Prof. Mathew Hay, of Aberdeen.

The treatment is based upon facts observed by Dr. Hay when studying the physiological action of the salines. He found that when administered in concentrated solution, when the intestines contained very little fluid, the rapid extraction of serum from the blood to form the intestinal secretion, produced marked and rapid concentration of the blood, the number of blood corpuscles per cubic millimetre being increased in one case from five million to nearly seven million. In a few hours this increase was no longer apparent, as the blood had so rapidly abstracted the tissue fluids and replaced the amount lost by the free purgation.

When administered therapeutically in cases of pleurisy, etc., the plan advised is to administer, an hour or so before breakfast, four to six drams of the salt in an ounce or two of water. Prof. Osler prefers the sulphate of magnesia to the sulphate of soda, as being the more soluble salt. The patient must not drink after taking the salts. Usually four to eight watery stools follow without pain or discomfort. It rarely disagrees, though rarely nausea and vomiting may be produced. The salt produces a diuretic as well as cathartic action.

Prof. Osler strongly recommends this treatment, not only for cases of pleurisy, but for general dropsy, renal or cardiac, in all of which excellent results have been obtained.

NEW YORK MEDICAL SOCIETIES.—There are thirty-one different medical societies in New York city, holding monthly and semi-monthly meetings. Seven or eight meetings occur every week on an average.—*Med. News*, Oct. 23.

BOOK REVIEWS AND NOTICES.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By AUSTIN FLINT, M. D., etc. Sixth edition revised and largely re-written by the author, assisted by WILLIAM WELCH, M. D., and AUSTIN FLINT, Jr., M. D., etc. *Philadelphia: Lea Brothers & Co., 1886.* 8vo.; pp. 1160; cloth. (John Linahan, J. H. Chambers & Co.)

Before his death Dr. Flint had revised and partly rewritten a sixth edition of his "Practice of Medicine." In this work he had associated with himself Prof. Wm. H. Welch, to whom he assigned the task of revising and rewriting those portions of the volume referring to pathology. Prof. Welch and Prof. Austin Flint, Jr., have carried the work through the press, and the latter, in the preface gives some interesting facts as to the work performed by his father. He states that the basis of this work is an unbroken series of records of cases in private practice and in hospitals, begun in 1838, and continued for more than half a century, covering sixteen thousand nine hundred and twenty-two folio pages of manuscript, written with the author's own hand.

Dr. Flint had unusually excellent opportunities for becoming familiar with the types of disease prevalent in different parts of the country, having practised and taught in Buffalo, Louisville, New Orleans and New York.

Dr. Flint's mind was receptive, and he retained to the last that characteristic readiness to receive any new truth, even if it necessitated a new adjustment of views long held. So in regard to the discovery of the bacillus tuberculosis, together with other diseases of bacterial origin

Much of the change which is found in this edition, as compared with previous ones, is due to the necessity of adapting it to the modern discoveries, as to the bacterial origin of disease.

The following are among the new articles found in this volume, viz., Infectious Tumors; Syphilitic Disease of the Lungs; Cerebral Syphilis; Spastic Cerebral Paralysis of Children; Hereditary Ataxia; Myxedema; Multiple Neuritis; General Pathology of Fever, and Milk Sickness.

Probably no other teacher of this department of medicine has

exerted a wider influence upon the profession, or has written more for the medical press than did Dr. Austin Flint; and in this last revision of his work Dr. Flint again placed the profession under obligations to him. The printing and binding of the volume are of the best.

HANDBOOK OF PRACTICAL MEDICINE, By DR. HERMAN EICHHORST, Professor of Special Therapeutics, etc. Vol. III. DISEASES OF THE NERVES, MUSCLES AND SKIN. New York: Wm. Wood, & Co., 1886; 8vo., pp. 390. (Wood's Library.)

This third volume of Eichhorst's work will, we think, be a very handy reference book for students and general practitioners. It is arranged for that purpose with care. The illustrations are not as well executed as those in other volumes of the Wood's Library series, but they are numerous. They are also modern, well selected, serving the purpose for which they are intended very well.

F. R. F.

A TEXT-BOOK OF MEDICAL PHYSICS for the use of Students and Practitioners of Medicine. By JOHN C. DRAPER, M. D., LL. D., etc. With three hundred and seventy-five Illustrations. Philadelphia: Lea Brothers & Co., 1885. 8vo.; pp. 733; cloth. (St Louis; J. H. Chambers & Co.)

This volume is one of great value to the medical student and practitioner of medicine, as a knowledge of physics is a necessary preliminary to the understanding of many of the processes which are involved in the physiological and therapeutical processes.

The eminent ability of the author both as a physicist and as a teacher, specially qualified him for the preparation of such a work, and the present volume is unquestionably the best on the subject in the English language.

A MANUAL OF OBSTETRICS. BY A. F. A. KING, A. M., M. D., etc., etc. With one hundred and two Illustrations. Third edition. Philadelphia: Lea Brothers & Co., 1886; 12mo.; pp. 379; cloth. (St. Louis; Jno. Linahan, J. H. Chambers & Co.)

Having already expressed a very high estimate of the value of this little manual of obstetrics when the first and second editions appeared, it is only necessary to say with regard to this third edition that it is an improvement upon its predecessors. The number of illustrations is nearly doubled, and excellent judgment has been shown in their selection.

There is no other volume of its size which can compete with this

as a text-book for students or hand-book for practitioners of midwifery. E. M. N.

MANUAL OF DIFFERENTIAL MEDICAL DIAGNOSIS. By CONDUCT W. CUTLER, M. S., M. D., etc. *New York and London: G. P. Putnam's Sons*, 1886; square 12mo.; pp. 161; cloth, \$1.25. (St. Louis: J. L. Bolland; J. H. Chambers & Co.)

In this little volume are given first in a few pages some suggestions as to the mode of examining a patient, and then the differential diagnosis between the different diseases which are allied, or between which there might possibly be confusion. In parallel columns are noted the characteristic symptoms by which the several diseases may be distinguished.

The arrangement is convenient and will be helpful to the student in formulating and making definite in his mind the contrasting as well as similar features of the various diseases.

HOW WE TREAT WOUNDS TO-DAY. A Treatise on the Subject of Antiseptic Surgery which can be understood by Beginners. By ROBERT T. MORRIS, M. D., etc. Second Edition. *New York and London: G. P. Putnam's Sons*, 1886. 12mo.; pp. 165; cloth; \$1.00. (St. Louis: J. L. Bolland; J. H. Chambers & Co.)

The first edition of this little volume having been speedily exhausted the second edition follows with no material change or addition. It is a concise, clearly expressed résumé of the views of the strictest practitioners of antiseptic surgery, and is a book from which all may gain useful suggestions in spite of the bombastic, conceited style in which it is written.

THE DISEASES OF SEDENTARY AND ADVANCED LIFE. A Work for Medical and Lay Readers. By J. MILNER FOTHERGILL, M. D., etc. *New York: D. Appleton & Co.*, 1885; 8vo.; pp. 296; cloth. (St. Louis: J. H. Chambers & Co.)

This book, as indicated upon the title page, is intended as well for the lay as for the medical reader; and Dr. Fothergill has given us a volume of great interest and considerable value. It contains many suggestions of practical value to the physician, and at the same time gives to the lay reader useful information as to the means of avoiding many of the ills and ailments that pertain to sedentary and advanced life.

It is a book that we can with satisfaction recommend to patients who belong to either of those classes.

TRANSLATION.

SAMARITAN LETTERS.

BY DR. FRIEDRICH ESMARCH, *Professor of Surgery in Kiel, President of the German Samaritan Union.*

Translated by MRS. EMILY A. NELSON, ST. LOUIS.

SECOND LETTER.

DEAR FRIEND.—In your yesterday's letter you have declared yourself agreed throughout with my views and endeavors as far as the employment of the earliest assistance with the drowned or suffocated is concerned.

So you must then also be willing that the German Samaritan Unions have concise directions for the resuscitation of the drowned printed and sent out.

In England you will find on every ship, on every steamboat, wharf, and in every bath car placards of this sort posted, which are gratuitously distributed, partly by the Royal Humane Society, and partly by the Royal National Life-Boat Association. Numerous human lives have already been saved by the laity in consequence of these instructions, and in England there never has been the objection raised from the side of the medical profession that such aid should not be made use of by people without their having received the typical professional education.

You offer a few objections also to my assertion that each drowned person though apparently dead after an hour's stay under water does not need to be considered a hopeless case; and you do not agree with my urgency that the skilful artificial respirations should be persevered in for many hours.

With regard to this I can only reply that several cases are known to me in which these efforts at recalling life have been successful, although the victims had lain an hour under water. One case was

that of a young lady, in Paris, who had thrown herself into the Seine, and was only fished out from under the bridge pier after the lapse of an hour; in another, a boy on a farm fell heels over head into a deep well; and as there were neither ladders nor ropes at hand it was more than one and one-half hours before he was drawn out. Often in such cases the victim falls into a deep swoon at the instant when the body strikes the water, and since in this condition, as is well-known, the respiration ceases, it plainly follows that no water can enter the lungs to produce suffocation. It is exactly in such cases as these that one may hope that prolonged, skilful, artificial respiration will restore life. There is therefore found at the conclusion of the before-mentioned instructions of the Royal Humane Society the remark: "This treatment must be protracted at the very least three to four hours, for it is an error to believe that the unfortunates are irrecoverably lost if life is not returned before this time." There are cases reported by companions in which a happy result was reached only after the most exhausting efforts continued more than five hours.

Of similar results after so long continued skilful respiration movements Professor Von Nussbaum, in Munich, and I, myself, can inform you.

But now I turn to the second part of your letter, in which you give your opinion against the other Samaritan ways of attempting to render aid, which reminds me amusingly of the words which my very respected friend and colleague, privy-counsellor Von Bergmann, spoke in his speech on the antiseptic treatment of wounds at the Naturalist's Convention in Eisenach, and which were at the time received with frenzied applause from many of the physicians present. Perhaps you were also there, or you may have read an article of Dr. Dornblüth, in Rostock, about "Popular Medicine," which is printed every year in some journal, and in which he assumes the place of Cassandra for the Samaritans, while he prophesies the imminent and complete extinction of the Samaritan movement, and constantly appeals to the words of V. Bergmann thereupon.

I am now of the opinion that Herr V. B. would have suppressed his mocking observations over my Samaritan efforts, if he had only known what I have therein in view. For, before all others should my surgical colleagues be thankful to me for the pains I have taken to enlighten the public mind about what is to be done and what let

alone in fresh wounds. We have only too often the opportunity of seeing the sad consequence of ignorance, which in these cases abounds supremely.

How often sufferers come into our presence in the most hopeless condition, doomed irrevocably to a miserable death, because a comparatively insignificant wound was bound up by dirty fingers, washed with dirty water, bandaged with soiled linen and in consequence of this treatment, the so much-feared blood-poisoning has occurred. We physicians place foremost of our efforts in the healing art, the Hippocratic precept, "Above all, do no harm!" Shall an intelligent physician in sober earnest be dissatisfied with me that I have attempted to make clear to the laity also the value of this maxim? And one glance into my "guide" and my "catechism" for Samaritans will show you that this has been my principal endeavor.

That I would attempt to educate the laity to complete antiseptic surgery is a statement without foundation. Do I not know only too well how difficult it is to fully impart to our young physicians the foundation principles of antisepticism?

But this I do wish, that, all people already in the school should learn that every impurity is a poison, especially when one handles fresh wounds.

For this reason I have pictured in the minutest details in my Samaritan discourses to the laity with what foresight and what extreme cleanliness we physicians go to work at our operations and in dressing fresh wounds.

But more important than in simple wounds is the first help in dangerous hemorrhages, for here the life of the injured one is imminently in peril, and death certainly follows in a brief period, if the proper assistance is not immediately at hand.

Now here our opponents maintain that the really correct help in hemorrhage can only be afforded by such as possess a thorough, scientific, medical education, therefore, exclusively by physicians, and this view, according to your letter, you seem to share.

But dear friend, what if the blood spurts from a severed vessel and there is no physician to be had? Shall they let the injured one bleed to death? The proverb "*fiat justitia pereat mundus*!" may have its value in the Law, but in the "*ars medica*" there seems to be no like proverb nor practice. In every such case any one with a heart in his breast would endeavor to aid, even if he is not a

graduated physician. But how often the most inappropriate means are made use of, because people have no understanding from whence the blood comes, and have only heard of all kinds of blood-staunching methods which should have been employed in this or that case.

A spider's web has the greatest fame among the people, and on the instant of a cut they hasten to get (perhaps from the filthiest places) a quantity of this unclean stuff with which to fill the wound.

If that is of no avail, then in turn they take some tinder or an old dirty sponge which is pressed close upon the wound.

Not seldom is it the case to find people who have heard or seen that one may stop the flow of blood through pressure. But *where* and *how* this pressure is to be applied they have never learned, and so compression is made in the wrong place and in the most improper way, so that the bleeding is only aggravated instead of being controlled. I could give you any number of examples of such ignorant attempts, at relief whose sad consequences I, myself, have in part seen.

Only a short time ago a brother practitioner from Eckernfoerde informed me of such a case which had induced him to organize there a Samaritan Union.

On a farm, two miles from Eckernfoerde, two peasants engaged in a fight, and while the one took the head of the other between his legs and belabored his back with a club, the other with his knife slashed through the calf of his opponent's leg to the bone.

As the blood spurted powerfully out of the gaping wound, the master of the place put a cloth around the upper part of the thigh and knotted it with a short stick so tight together that the bleeding temporarily ceased.

Then he had the man laid on a wagon and driven to Eckernfoerde. But as the short stick had not been firmly fastened the bleeding almost immediately recurred, and, as they had sent no companion along, the injured man only arrived at the physician's house a corpse.

The legal post-mortem showed that the posterior tibial artery had been cut through. If a Samaritan had improvised a tourniquet and fastened it securely, as he learns and practises it according to the instructions, the stick would not have loosened; he would also never have permitted one so dangerously wounded to be taken such a distance to a physician without any attendant.

Not less instructive is a case recently narrated in the Berlin newspapers. An old man had given himself a number of thrusts in the left arm with a knife, and in this way had cut through the artery and also a superficial vein. He was loaded on a wagon and driven to the Charité.

Previously, however, a layman, who had evidently enjoyed no Samaritan instruction, girted the upper part of the arm with a whip lash, but not firmly enough to check the stream of blood from the artery. So the constricting cord worked only to compress the vein, the arterial blood streaming constantly from the wound, and when the man arrived at the Charité at the expiration of an hour, they found him bathed in blood, without pulse, without respiration, in short without a sign of life. My honored friend, Councillor Bardeleben, succeeded through transfusion (injecting a warm salt solution into the severed vein), in restoring life, and the man was saved.

If a Samaritan had rendered the first aid and used either a stick-tourniquet or an elastic suspender applied in the manner taught in the Samaritan school, most certainly the death from hemorrhage would not have followed.

This sort of an occurrence is too often ascribed to the Samaritans by our opponents, but up to the present time I have yet to be informed of a case where such lamentable aid was rendered by a trained Samaritan.

If you were at the Natural Science Convention, at Eisenach, you must certainly have heard also the anecdote about the "Samaritan finger" which was constantly related by one and another in order to nourish the ill-will against the Samaritans.

In my address, which I delivered in 1883, at the Hygiene-Exposition held in Berlin, I proved that of the story only this is true, that a woman who had never received Samaritan instruction lost a finger from gangrene because she had bound up a bleeding wound tightly with a cord, and that my co-laborer Professor Petersen, who amputated the finger, said to her that if she had heard the Samaritan lectures she would never have been guilty of such a piece of stupidity. That I do not underrate the danger of a too prolonged cording, you may well believe. Already during the recent campaigns I have seen cases enough in which the tourniquet customary up to the present time, applied even by surgeons on the battle field, had worked much harm.

On this account I have taken great pains to replace the old tourniquet by the much safer working elastic girth, and for the same reason there is much time devoted to the subject in the Samaritan schools in teaching and drilling the students in the correct application of means for arresting hemorrhage. And invariably this fact is impressed upon them most forcibly, that as swiftly as possible and under responsible oversight the injured ones must be brought to a physician as soon as they have stopped the preliminary bleeding, because a prolonged cording is very dangerous.

It was just such cases of unskilful or entirely harmful aid as these that occasioned my introducing the Samaritan schools in Germany, and if you give yourself the trouble to glance through the yearly issue of rules for the German Samaritan Unions, you will there find that with each year the cases vouched for by physicians, increase, in which *not* physicians, but those who have had Samaritan training alone have succeeded through the application of intelligent, properly directed force in preventing deaths from loss of blood.

As an example I will tell you of an emergency which a friendly brother physician recently narrated:

In a wood-working shop employing a large number of laborers and in close proximity to a large city, one of them had the misfortune to bring his right hand too near to a cross-cut saw which was revolving with terrific speed. In an instant the forearm close to the wrist together with the bone was sawed through, so that the hand only hung by a flap of skin.

From two arteries of the forearm spurted the crimson blood in a full stream. They called for help; some ran for medical aid, but every physician was at a distance, or was not to be found, and one arrived only after the expiration of an hour. By good fortune there was present in the machine room a workman who had shared the Samaritan instruction, and as he wore suspenders of the kind I had recommended for tourniquets, he quickly removed them, freed them of their buckles and wound the elastic band as he had learned and practised so tightly about the upper arm that the bleeding was stopped. Then he wrapped the injured hand in a clean napkin which he had moistened with a weak carbolic acid solution, and carefully laid the wounded man, who had swooned, on a mattress hastily provided.

When at the expiration of an hour the physician arrived and

removed the bandage and the napkin, he sought the two severed arteries in order to ligate them; but as they had contracted he loosed the girth, being, however, obliged at once to replace it, as the blood spurted with great force out of both vessels. He now easily found the severed arteries, ligated them, sewed the severed sinews and nerves together, and wrapped the wrist with an antiseptic bandage, in all the steps of which operation the Samaritan workman lent skilful aid. The healing of the severe injury followed without delay, and it is now hoped that the unfortunate one will retain a really useful hand. If, however, there had not been in the near neighborhood a helper so schooled, most probably the wounded man would have bled to death before the arrival of a physician.

I could relate to you a whole series of similar cases but I hope that these will suffice to convince you that even a layman well-trained may succeed in staying the departing life when medical aid is not at once to be had.

TRAINING SCHOOL FOR NURSES FOR THE INSANE.—In our last issue we mentioned the establishment, in the Hudson River State Hospital for the Insane, of Schools for the Insane, as a therapeutic agent for the benefit of these afflicted ones. We note also that in the same institution, there has been established a training school for nurses for the insane. Graduates of general hospital training schools will be admitted to the hospital for the term of one year, and, upon passing examination at the end of that time, will receive a diploma. They will receive twenty dollars a month during the first six months, and twenty-five dollars during the last six months of their stay there.

The course for those who have not graduated at a general training school, is two years in duration, and the compensation varies from ten to seventeen dollars a month, according to proficiency and time and value of service. The course for men is also two years, and compensation sixteen to twenty-two dollars. Board, washing, lodging and medical care, if needed, are also furnished all pupils and nurses.

HEALTH.—Sir Andrew Clarke defines health as that state in which the body is not consciously present to us, that state in which work is easy, and duty not a great trial; the state in which it is a joy to see, to think, to feel, and to be.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, October 21, 1886.

PUERPERAL ECLAMPSIA.

Dr. Papin read a paper on this subject. (Vid. p. 1).

Dr. Boislaniere.—I must compliment the doctor on the very complete manner in which he has handled this subject. It is a very interesting one indeed, and the paper is doubly valuable from the fact that it is fortified by the doctor's experience. As he states, these cases are comparatively rare. The statistics given by the most modern authorities show that eclampsia takes place in one out of every 350 or 355 labors: that is about the proportion. And it is said that eclampsia is getting more frequent, that the percentage has increased within the last 40 or 50 years; the death-rate is also very great: as the doctor says, it is about one in every three. Then there is another fact also noticed, that this affection is at times somewhat epidemic. There are years or seasons which predispose to eclampsia, even as there are years and seasons which predispose to hemorrhage. Another fact also is noticed in eclampsia, that is that it occurs more frequently in primiparæ. This is in about the proportion of four to five. Now, this is owing perhaps to the increased renal pressure which the doctor mentioned, the pressure upon the kidneys; and this pressure is greater in primiparæ, because the walls of the abdomen do not yield. It is also more frequent in girls that have been seduced. This is owing probably to the fact that they are primiparæ generally, and secondly that they are exposed to unfavorable hygienic conditions, and have thus been rendered more or less anemic. An account should also be taken of their sad and unfortunate condition. It has been noticed in hospitals in quite a number of cases that this class of patients who have been seduced and those who

have been living under very unfavorable hygienic conditions are more disposed to eclampsia than others. The causes have been enumerated by writers under four or five different heads; for instance, some have attributed a class of cases to irritation from the pregnant uterus carried to the nervous centres; that is one of the causes to which writers, Scanzoni and others, attribute the trouble. These authors consider eclampsia as purely a cerebro-spinal neurosis—a reflex action of the nervous system; others as a general or cerebral anemia (Traube); others as an altered condition of the blood which renders it no longer stimulating to the nervous centres. The presence of excrementitious matters in the blood, urinemia or uremia, has been advocated by many as eminently one of the predisposing causes upon which most frequently the attack depends. Cazeaux in his valuable work remarks that all those causes, singly or combined, serve to irritate the nervous system, wherever may be their starting point; still, if there was no condition of uremia or excrementitious matter in the blood, there would probably be no convulsion. All primiparæ do not of course have eclampsia, nor do all women in which there is great pressure upon the kidneys have convulsions, so that this cannot invariably be the cause of the trouble. Then again we find the trouble in multiparæ, so there must be some other cause in addition to pressure upon the kidneys by the unyielding walls of the abdomen which predisposes to the trouble. Another cause for eclampsia is given as rickets, but eclampsia does not always occur in women with rickets: so in this respect Scanzoni's views, although exceedingly interesting, are not conclusive. All these causes put together serve to irritate the cerebro-spinal system, and produce this terrific nervous explosion, which we know by the name of eclampsia, which, by the way, has been called eclampsia from its meaning, a stroke of lightning. These attacks come on as Dr. Papin says, very suddenly: they come like a clap of thunder from a serene sky. That there is fetal as well as maternal excrementitious matter in the blood there scarcely can be any doubt, and in the majority of cases without the presence of these effete materials there would be no fit. Coincident with these matters in the blood, in the great majority of cases albumen has been found in the urine, and the presence of albumen is supposed to be a diagnostic sign of this trouble, and it is generally admitted that whenever eclampsia occurred there has been found albumen in the urine. However, there have been some rare cases

reported in which the urine, although carefully examined, failed to show any traces of albumen. I have had a very interesting case of eclampsia in one of the girls at a lying-in hospital, confirming the opinion of some observers that during the fit there is intense congestion of the larynx as well as of the lungs. There was at first a blue condition of the whole body, and the patient had a characteristic croupy cough. Finally, in one of these attacks of coughing she threw up a long false membrane, being a perfect cast of the mucous lining of the larynx. There must have been intense and sudden congestion of the larynx at that time, and the ejection of that pseudo-membrane I consider a remarkable occurrence. I suppose that if the patient had not thrown off this membrane she would have suffocated to death before the delivery of the child. The essayist lays some stress upon the differential diagnosis of eclampsia, puerperal convulsions and hysteria, epilepsy and so on. I believe that the epilepsy and coma of drunkards should have been added. It is sometimes very difficult to make a differential diagnosis of these conditions. It is very easy sometimes. For instance, you know that in hysteria the characteristic of the convulsion is a variety of movements, the patient will throw up her hands in every direction, while in eclampsia there is first a tonic spasm then a clonic spasm, the patient remaining in the same position: there is no danger of her throwing herself out of bed, no variety of movements occurs as is the case in hysteria. Then another characteristic sign, when a woman has hysterical convulsions, is that if you look at her you will see that there is a winking of the eyelids which does not take place in epilepsy or eclampsia, and by that sign alone you may know then that it is an attack of hysteria. Epilepsy is also to be distinguished from eclampsia, because in epilepsy generally the faculties return completely and entirely after the attack and the subsequent stertor until another seizure takes place, whilst in an attack of eclampsia the woman is dazed and in a confused condition of mind, or remains a long time in a state of coma, sometimes until death; or, if recovering from it, has lost all memory of the attack.

Severe attacks of eclampsia are occasionally followed by hemiplegia or paraplegia or other serious nervous symptoms. It must be acknowledged, however, that the coma of epilepsy is often difficult to be distinguished from the coma of eclampsia. There is, however, one valuable means of diagnosing eclampsia from other

nervous affections, it is the temperature. This is a true test: in uremia the temperature gets lower and lower all the time; it may be normal at first, but it gets lower as the disease progresses, while in epilepsy there is at first a slight rise in temperature, and this gets lower as the attack passes off, while in eclampsia the temperature gets higher and higher all the time, and if it never descends the prognosis is very unfavorable. This is a very valuable means of diagnosis and prognosis. Of course, if the temperature rises above 103° or 104° the prognosis is very bad, if it does not descend. If it does not get above 100° or 102° the prognosis is favorable, provided the temperature descends, so that eclampsia can be differentiated from hysteria, epilepsy and drunkenness simply by means of the temperature. In regard to the treatment Dr. Papin has covered the ground very well. I believe sometimes these attacks occur before labor as early as the second or third month of pregnancy. They happen before labor in about one-third of all the cases and during labor in two-thirds, and after labor perhaps less than one-fourth. The attacks which occur after labor are usually fatal. Dr. Papin said that when the convulsion happened after labor the prognosis was very favorable. That has not been the result of my experience. If the convulsions take place after labor, they have generally been fatal with me, and the reason of it I attribute to previous disease of the kidneys—Bright's disease probably of long standing intensified by the condition of pregnancy and the process of labor. A curious fact to notice also is that the convulsion sometimes occurs a long time after labor; for instance, cases have been reported which occurred eight, nine, ten and even eighteen days after labor, and Simpson who treats everything in a masterly manner, and this subject splendidly, quotes a case which occurred five weeks after labor, so that it may be owing to some other causes originating probably from a pathological condition of the kidneys. As for the treatment, the essayist has covered the question in a masterly manner, and there is nothing or very little to add, so far as I know, except probably that the preventive treatment should be carried out a little more vigorously than is often done. I remember that Dr. Pallen, who was an eminent teacher of obstetrics and a man of great energy and practical resources, recommended giving a good old-fashioned purgative, the black draught, to most women two or three weeks before confinement, with the view of carrying off all excrementitious matter, and he bled them from the

arm for headaches, dimness of vision, vertigo or plethora, etc., and Dr. Meigs advised that when we find the bloated white condition of the eyelids, edema pedum and anasarca, which indicate that there is more water in the blood than anything else, that you should bleed these patients. It must be remembered that if we bleed under those conditions we would get more water than anything else, for pregnant women towards the end of pregnancy are hydremic. The proportion of water in 1,000 parts of blood increasing from 789 to sometimes 827. This serous plethora causes a hydrostatic tension upon the brain, and the bleeding is a good measure in many cases to remove the cerebral tension and at the same time much of the excrementitious matter in the blood. Before labor in other cases less hydremic, if before or at the time of labor the patient complains of headache, disturbances of vision and of hearing, indicating vascular or cerebral tension, the proper treatment is to remove ten or fifteen ounces of blood by venesection, and I do not see that there can be any bad results from it, because we must remember that Nature bleeds every woman six or eight ounces a month for thirty years of her life. I remember that Dr. Papin spoke of a case in which he was called to a woman in eclampsia who was a patient of Dr. Philips, the late Dr. Sangrado of this city. Dr. Papin was called in Dr. Philip's absence. He bled the woman forty-two ounces. Shortly after his departure, Dr. Philips called and bled the woman fifty ounces more. The woman recovered. Sometime after her recovery Dr. Papin met Dr. Philips and remarked that he supposed she recovered on account of the blood which he had taken from her. Dr. Philips said: Nonsense, I bled her fifty ounces more immediately afterwards. Of course, this is heroic treatment, but there are doubtless, very rarely however, cases which call for it. Generally moderate bleeding, from fifteen to thirty ounces, will suffice and may be advantageously followed by chloral, per rectum, chloroform and opium.

Dr. Engelmann.—I think this is a difficult subject for a physician to properly express his views about, because in private practice we see so few of these cases. I have seen but three here, while in a year in a large lying-in hospital I have seen, I presume, ten or a dozen, and then it is a difficult matter when we see cases as we do in private practice without those opportunities of observation which we can get in a hospital. Frequently we are called by mid-

wives in consultation; there is no possibility of any preparatory treatment; we have to act under the most difficult circumstances. The discussions which have been going on as to the cause are by no means ended, and it seems to me the error lies in looking upon eclampsia as a disease. I take it to be merely a symptom which varies. A lying-in woman, affected with certain conditions, shows those symptoms in her labor precisely as does a child who is thrown into a convulsion by various causes, and that these causes differ has been made evident. I never saw a case, I presume out of some fifteen or sixteen, which has not had an abundance of albumen in the urine, coagulating I might say. That the conditions vary is certainly evident, and that it is not one cause alone which produces this trouble or this condition is evident, since we have this condition, at least as some claim, with evident anemia and in others a congestion. In most of the cases the urine shows the presence of albumen; in some it is claimed that this has not been found, however. I think it is injudicious to claim that blood-letting is of service in every case. I presume in some cases it is valuable, but by no means in all. Not in proof of this, but still as evidence of the utility of the treatment, I will say that one of the only cases I have seen which died was one in which there was unquestioned congestion—there was a most plethoric condition, and blood-letting was adopted, but was not successful on account of the immense quantity of fat, the veins closing: it was difficult to reach the fat overlapping them, and the patient died. I have seen in a series of cases chloroform used and the wet pack or bath, and chloral injected into the rectum. I presume that we all know the lancet is not sufficiently used at present, but it is not always advocated in these cases, and I think I have seen the average success achieved without it; and then, as there are different causes which produce it, I think it would be well to limit the blood-letting to a certain class of cases and not others; for instance, in those in which there is congestion and a plethoric condition. We are certainly indebted to Dr. Papin for the very full illustration of the subject, and especially the reference to numerous cases.

Dr. Boislaniere.—I did not advocate blood-letting in every case.

Dr. Coles.—I simply wish to say a few words. Of course, no one who has had the large experience which Dr. Papin has could write a paper on this subject which would not be entitled to respect. I must say though that I was a little surprised that Dr.

Papin didn't undertake to classify these cases. So far as the treatment is concerned, we would be led to believe that all cases of puerperal convulsions were exactly of the same character and ought to be treated pretty much alike, in other words, that the lancet was applicable to all these cases. Now, I don't think there is any doubt that many women are not in a condition that will justify the use of the lancet. It seems to me we only aggravate the difficulty; we certainly don't relieve the pressure so far as the renal glomeruli are concerned, and the calibre of the blood-vessels will remain the same whether you bleed the patient or not. You may relieve the patient temporarily, but in the course of a few hours serum from the tissues is rapidly taken up and the calibre of the blood vessels will return and the same pressure be found. I think this is a physiological truth that no man will dispute. Of course, where there is a pre-existing Bright's disease or some other cause that may predispose, and patients as we know are constitutionally predisposed to puerperal convulsions, we should adopt every means possible to prevent eclampsia. I remember seeing a patient who had convulsions in all her former labors, and she has had four children. It is true the attacks were rather light. I saw a case with Dr. Boisliniere some years ago in which the patient died after having probably forty or fifty convulsions; this was the second time she had had eclampsia. Now I think there are some cases where the convulsions may be independent of the pregnant condition, but they are generally dependent upon a condition of pregnancy. That being the cause, the first and best remedy is the emptying of the uterus when the convulsion comes on. Labor usually follows the convulsion very quickly; and if it does not, it should be brought about as quickly as possible, and I think a great many practitioners are too slow in terminating labor under these conditions. The uterus should be emptied as soon as possible immediately upon the attack; and whatever is done in the way of treatment should be left until after the labor has been completed. Of course chloroform is quite a valuable remedy in this condition, as are also morphine and chloral. I have certainly seen patients who had puerperal convulsions that could not stand blood-letting. I have seen women who, after the first convulsion, were so exhausted that you would have to inject ether hypodermically and brandy to keep them alive. Such patients could not stand the loss of blood. I remember having seen a case at one time in which there was some

trouble with the woman's kidneys. We had never been able to get enough urine out of the bladder to test it, to see whether there was albumen in it or not. There was complete suppression of urine, and the woman was in an extremely feeble condition. In that case we gave a hypodermic injection of morphine.

Dr. Papin.—How much morphine did you give her?

Dr. Coles.—About a quarter of a grain.

Dr. Gehrung.—My experience with this disease is very limited. I have only met with one case in my private practice, and I went to this case entirely unprepared, so that I had no instruments or anything with me. In this case there was complete abdominal dropsy and general anasarca. I knew nothing about the case before the night that I was called to see it. Under the circumstances nothing could be done but to try blood-letting. This case was similar to the one which Dr. Engelmann has just mentioned. The blood flowed for a few seconds and then it seemed that the contortions of the muscles carried the blood vessels away from the opening so that the blood could not flow any longer, and the patient died.

Dr. McPheeters.—That was a case for bleeding at the jugular vein.

Dr. Gehrung.—This case occurred about twenty years ago, and at that time it was not recommended that we open the jugular vein.

Dr. Maughs.—I will state that I heartily agree with Dr. Boisligniere's views. I am an advocate of bleeding in these cases. I think that the main point is to relieve the blood pressure, and even if, as Dr. Coles says, the vessels will soon fill up again, we relieve the tension for the time being, and by the time they do fill up again the patient may be out of danger. I remember when quite a young man I made quite a reputation through a case of puerperal convulsions. I had just moved into a town and had only been there a few weeks when a member of a wealthy and influential family was taken with puerperal convulsions, and the family becoming alarmed they sent for the new doctor, which was myself. I called at her bedside, bled her and delivered her as rapidly as possible, and the woman recovered, which, as I say, made quite a reputation for me, so that I am quite an advocate of bleeding in these cases.

Dr. G. A. Moses.—I have been greatly interested with the views which have been expressed to-night, and I think we are greatly indebted to Dr. Papin for his excellent paper. As he has aptly said,

the condition of an attack of convulsions in the parturient woman or a woman about to go into labor or just after labor, is ordinarily most appalling and terrific, whether it is expected or unexpected, and calls for the most active measures that can possibly be devised. So far as the various theories are concerned, I must confess that I am inclined to go back to Marshall Hall who considered the convulsions which occurred at the period of labor, always excepting those due to some pre-existing disease which is recognized, as a form of uterine apoplexy that is largely dependent upon the nervous centres of the uterine ganglia that can be traced through directly to the nervous system, and we can explain the phenomena connected with them in that way, for instance the albumen in the urine which can be found if examined a few hours before the attack. I have never seen an attack in which the urine was examined that albumen was not present. We know very well that by the action of the nervous system on the vaso-motor system albumen is discharged from the kidneys in perfectly healthy renal conditions, and so we can explain all other symptoms which have in many respects led us astray in search of the etiology of puerperal eclampsia. I think that the cause of these cases may be entirely found in the nervous centre and due to reflex action from the irritation of the nerves of the uterus itself. The most successful treatment is based upon this fact. It is too late to go into a discussion and argument of the whole matter. However, bleeding has been advocated from the earliest days, and from very essentially correct principles, that are based upon the fact of the symptomatology. As a rule, there is intense cerebral congestion, and death is threatened apparently from apoplexy. My impression is that wherein bleeding is of benefit, it is a benefit simply by its mechanical action in preventing cerebral pressure upon the delicate vessels of the brain. In some cases of course, bleeding is not only of no benefit, but absolutely deleterious. I think I have seen two cases that were particularly appalling in their appearance which were treated not only without blood letting, but it was particularly withheld and other remedies resorted to, as chloral and chloroform; so that while blood-letting is of benefit, it is of benefit only in a peculiar class of cases and in others it is deleterious. There was one remark which Dr. Papin made which I must dispute, and that is the ill effect of opium in these cases. Whether albuminuria exists or not, I consider morphine one of the most valuable agents in repeated convulsions.

Some of the gentlemen may recollect a case that I reported in a paper that I read on eclampsia the first year of the Society, which I saw in my hospital life, in which I was called to assist a gentleman in a case of eclampsia. I examined the urine right away. I was young then, and I probably looked at the urine before I looked at anything else about the patient, and when I first examined the urine I discovered no albumen at all. It was examined rather hastily, but still I did it as carefully as I could. The patient was delivered; the convulsions were subdued. She had been bled previously by an old fashioned practitioner, a man of eminent ability, but the convulsions were repeated after delivery had been accomplished. The woman passed into a state of coma and the physicians left me in charge of her. As soon as the coma passed off, she immediately had a violent convulsion. My instructions were to keep her under chloroform. Satisfied that there was no albumen in the urine, and opium was safe, I gave the woman an injection of morphine, quite a full one, with such satisfactory results that she was perfectly quiet for several hours, and finally when she awoke and another convulsion commenced, I repeated the morphine injection. Later, I examined the urine and found albumen. I was afraid the woman would die, but she got well. I have had no doubt about the use of morphine since then, and believe it is perfectly proper.

Dr. Gregory.—Dr. Boisliniere, it seems to me, touched a very important point when he said that if there is a condition such as he described during pregnancy, the patient should be bled. It does seem to me that accidents were much less frequent in the time when bleeding was more common than it is now. I remember very well when I first began the practice of medicine, when I had charge of these cases I felt it was my bounden duty, in a very large proportion of cases sometime during the pregnancy, that I should bleed the patient, and I can assure you that the patient was always relieved by bleeding. That is one of the most important points, this preliminary treatment—and occasionally bleeding during pregnancy. It occurs to me that it is a good thing and prevents many of these accidents. Then, again, I must join with Dr. Moses in his idea about morphine. I should certainly not think of giving a woman morphine when I thought she needed bleeding; however, the remarks of Dr. Engelmann are very pertinent, if we could only tell beforehand. I have no doubt that there are cases in

which we are justified in not bleeding, if we knew exactly when the condition existed, but we cannot do that, and in the absence of this definite knowledge, I say, if my wife or sister or anyone who is near to me, were the subject of puerperal convulsions, I should feel that if the lancet had been neglected, the most important of all agencies was forgotten or ignored, and I should not be influenced by any notion of this particular case not being the sort of a case in which bleeding should be resorted to, because my knowledge of the nature of the condition is too vague to justify any such deduction. So I would say after bleeding I would use morphine or something of that kind, and we all know that morphine is the most reliable.

Dr. McPheeters.—The paper of the evening is on an important subject, and Dr. Papin has treated it with his accustomed ability. It is my fortune to have had some experience in puerperal eclampsia, an experience which has made an indelible impression on my mind, as this is one of the most alarming complications incident to labor—the only other casualty that at all approaches it in horror, is a bad case of placenta previa. As has been said, it is fortunately of comparatively rare occurrence—one case in from three hundred to three hundred and fifty labors. In a practice of forty-six years, I have encountered some eight cases, two of which proved fatal. The main points of interest with which we have to do, may be briefly stated to be its cause and cure, the pathology and treatment of the disease. A few of my cases occurred before the presence of albumen in the urine and other morbid changes of the renal secretion were recognized as a prime factor in the causation of eclampsia. Since that time, in a majority of cases there was well marked edema, with a large percentage of albumen in the urine, while in two cases there was little edema, and no albumen found. Whether or not there was an excess of urea in either of these, I am unable to say. There can be no doubt of the fact at present that the morbid condition of the renal secretion, and the toxic effect which it has on the nervous centres, plays an important part in the production of eclampsia; but that it is the sole cause, I do not for a moment believe. But it is chiefly with reference to the treatment of puerperal convulsions that I wish to speak. I wish to bear unequivocal testimony to the paramount importance of blood-letting in this formidable disease. In my opinion it is the sheet anchor, the all-important remedy. We should not only bleed but bleed profusely

—more than once if necessary, as it sometimes is—bleed with reference to the effect produced, rather than the amount of blood drawn. To resort to cups or leeches under such circumstances, is but to trifle; nor will the abstraction of a small amount of blood, say twelve or fifteen ounces do any good, but I have never failed to be both satisfied and gratified with the effects of copious bleeding. In the two fatal cases referred to, in one of them, in which I was not responsible for the treatment, the lancet was not used, while in the other it was used too late and too sparingly. In a recent case, in which I first saw the patient while in a severe convulsion, fully a quart of blood was at once drawn, with prompt relief; consciousness soon returned, and from the patient I learned that for several hours before the attack, she had suffered with intense pain in her head, which was entirely relieved by the bleeding. On examining her urine, it completely coagulated under heat, so great was the amount of albumen present. This seizure occurred between the sixth and seventh months of pregnancy; since then she has been delivered of a still-born child at term, and is not in good health. Some years ago while attending a rather delicate lady in labor with twins, she suddenly sprang up in bed during an interval of pain, clasped her hands to her head, and complained of intense pain, when immediately she fell back in a violent convulsion with all the characteristic symptoms. Copious venesection was at once resorted to, which completely relieved the paroxysm; another convulsion, however, soon came on even more violent than the first; chloroform was then administered, in order to enable me to get at, and bleed from the other arm, which was done to the extent of some thirty-five or forty ounces. After the second bleeding, labor progressed regularly, and both children were safely delivered without the occurrence of spasm. The mother and both of these children are still living and in good health. In still another case, that of an enormously obese woman of marked apoplectic tendency, I was wholly unable to reach the vein in the arm owing to the very great deposit of fat, the arm being almost as large as my thigh, but deeming it absolutely necessary in order to save the life of the patient that blood-letting should be resorted to, I made an incision two inches long and cut through adipose tissue to the depth of one inch and a quarter before reaching the vein, which was opened and fully a quart of blood drawn to the entire relief of all the urgent and alarming symptoms. It is perhaps going to far too say that the

lancet is required in all cases of eclampsia, but the exceptions are very rare—certainly the existence of albuminuria is no contra-indication, but the reverse, nor is an enfeebled condition of the heart's action a bar to its use. Blood-letting not only relieves brain pressure, and thus tends to prevent threatened rupture, or effusion, but it also lessens pressure on the renal vessels, and not only diminishes the amount of albumen, but removes the chief causes of its formation. In several instances, I have noticed that the stream of blood would increase, growing larger and stronger as it continued to flow, showing relief of the over-crowded condition of the heart and lungs, as well as of the brain. Of course other remedies are to be used besides blood-letting: chloroform, chloral, morphine, and prompt cathartics all have their place. I fully agree with Dr. Moses as to the value of morphine in certain cases, after depletion. The prime indications in eclampsia are, first to subdue the convulsions, and then, by all legitimate means, to effect as speedy a delivery as possible. And now a word as to preventive treatment alluded to by Dr. Gregory. This is important and consists in strict attention to the bowels and kidneys—especially the latter, to see that their functions are regularly and normally performed, and whenever, either before or during labor, the patient complains of severe, persistent pain in the head to bleed her freely. In pursuing this course I am satisfied that I have averted puerperal convulsions. I know that blood-letting is unpopular at the present day, and some young practitioners are afraid to resort to it—such has been the tendency of their instruction. The lancet was formerly abused, now it is neglected. Perhaps the former error was greater than the latter, as it must be admitted that there are few diseases in which we now find it necessary to bleed, but in eclampsia the lancet is certainly entitled to retain its pre-eminence. I hold that the physician who refuses or neglects to bleed in puerperal convulsions is, to say the least, derelict in his duty to his patient, if he does not incur a far weightier responsibility.

Dr. G. A. Moses.—The President has mentioned the matter of bleeding from the jugular vein. Whenever I hear of bleeding from the jugular vein, I recall to mind the recommendation of Dr. McDowell as to how this should be accomplished, and he described it very graphically, as most of the gentlemen are aware. He said the patient must be placed before a window in a strong light bearing directly upon the neck, which should be bared to the shoul-

der, and then the physician should be prepared with a long lancet, not of the ordinary kind but a spring lancet. He should then grasp the patient by the neck with the thumb, compress the jugular vein at the most favorable site, the lancet held immediately over it, so when it was sprung it should strike the vein exactly. He should then throw the lancet out of the window and let the patient go. That was Dr. McDowell's recommendation in regard to bleeding at the jugular vein.

Dr. Maughs.—In visiting the Naples Museum in which are contained the relics from the ruins of Pompeii, I found quite a number of instruments which could be used very readily at the present day. There were some of them which looked quite modern, scalpels and so on, and among them I found the speculum which is described in the work which was written by Aetius, from which I translated some years ago at the St. Louis Medical Society, it being a compilation of the writings of Archigines, the great Greek gynecologist, in which the use of this speculum is described. Although the use of it was described in this work, the speculum had entirely passed from the world, so that there was not an instrument of the kind known. This speculum you will observe would do very well at the present time, provided there were no other speculum in use, and it is far superior to anything which was in use up to the present century for hundreds of years. It is a bivalve speculum and was closed when introduced into the vagina, and by turning the screw the vagina was gradually dilated until it attained such a size as the surgeon wished. This would serve an admirable purpose to-day if there was no other speculum in the world. You will observe that the speculum has lain for two thousand years in the ruins of Pompeii so that it is rusted, and one might take this to be the veritable instrument which had laid in the physician's office or instrument maker's for two thousand years, as they not only reproduce the exact instrument but also the rust upon it. This is introduced into the vagina, and an assistant holding it by the handle the surgeon turns the screw until the vagina is sufficiently dilated. It is very surprising that this speculum should have been in use and then should have been entirely forgotten for two thousand years.

Annual Meeting, Nov. 1886.—President W. M. McPheeters in the chair.

This being the annual meeting of the Society, the President, Dr. W. M. MCPHEETERS, delivered the usual

ANNUAL ADDRESS.

GENTLEMEN: Our constitution makes it the duty of the retiring president to close his official term with an annual address. I shall interpret this, on the present occasion, to mean a short address,—one which, while it honors the law and conforms to custom, will not unnecessarily try your patience.

During a somewhat protracted professional career, I have been the recipient of many undeserved honors at the hands of my professional brethren, but no one of these has been more highly prized by me than the twice repeated honor of presiding over this small but learned Society; and it is all the more gratifying from a consciousness of the fact, that for it I am indebted more to your kindness, than to any special fitness on my part for the position.

Since our last meeting death has again entered our ranks, and added yet another to the list of our deceased members—Hodgen, Montgomery, and Barret—these have been our recent losses, but not ours alone, for they are losses as well to the profession at large, which they so well adorned.

Each year is said to be a critic on the past. In looking back therefore, on the year now drawing to a close, it is obvious that it has witnessed no abatement in the zeal and activity bestowed on those special departments of medicine which it is our province to cultivate. The medical press too, and the periodical literature of this and other countries has abounded, as usual, with essays, communications and discussions, at once able, interesting and instructive to those engaged in obstetrical and gynecological pursuits. But while this is patent, it is also true that it has not been signalized by any marked or striking progress in any new directions, such as has characterized other epochs in the past. Without seeking fresh pabulum the professional mind seems rather to have been engaged in the profitable task of digesting, and properly assimilating that already received—pausing as it were, for the purpose of careful examination, with the view of assigning to their legitimate place, recent discoveries and advances—for great and marvelous as some of these have been, they yet need to be rigidly

scrutinized, so that the vast amount that is true and valuable in many of them, may be rightly separated from the much that is untrue and misleading, whether in theory or in the mode of their application. It has ever been the tendency when new remedies have been introduced in medicine, or new operations devised in surgery, for their enthusiastic authors to overestimate their importance, to claim for them extraordinary virtues, or even to mount them as hobbies for the purpose of riding into notoriety. Following these extravagant claims comes the "sober second thought," the period of investigation and of rigid examination, during which by the combined application of reason, careful clinical observation, and accumulated experience, their true value is definitely and permanently established. Such a period is the present, in which many subjects of professional interest are on trial, with reference to their final adjudication. Thus Listerism and antisepticism are at present undergoing this quasi judicial process, but as yet without any satisfactory verdict. The latter, if not the former of these may be said to be a fixed fact in medicine, having come to stay, but not altogether in the shape originally designed, nor to the extent at first proposed. Thus far the discussion of this subject has done great good, and and has borne substantial fruit. At present all are agreed as to the paramount importance of absolute, scrupulous cleanliness, and good personal and general hygienic surroundings, which is the underlying idea of Listerism; but all do not by any means concur in the opinion, so confidently entertained by many, that this is all there is in Listerism. Just here the issue is joined, the question in dispute being whether or not there are in the air we breathe, and by which life is sustained, innumerable microscopic germs, differing in size, shape and character, generally, if not necessarily poisonous, and which, when brought in contact as of necessity they must be, with wounded or abraded surfaces, give rise to suppuration, and other deleterious consequences, and which by a process of fermentation set up diseased action in the system; or on the other hand, even admitting the existence in the atmosphere of certain forms of micro-organisms, whether they are not *per se*, innoxious in character and incapable, under ordinary circumstances, of originating diseased action in the tissues, if indeed they are not, as some suppose, salutary in their effect "standing like sentinels on the confines of organic life." In the nature of things this controversy is not likely to be decided so long as the parties to it derive their facts, and

draw their conclusions from such opposite conditions of circumstances. Thus those who are brought in contact with the air of crowded hospitals, reeking, as it too often does with foul and putrid exhalations, or with that of densely populated, and infected districts in large cities, will arrive at far different conclusions as to the pyogenic or disease producing character of the bacteria they encounter," from those who base their observation on the pure, well-oxygenated air of the country—notably that in some portions of our own north-western territory—where as is well-known, fresh beef will keep, even in summer, for an indefinite length of time, and where gun-shot and other wounds heal almost as by magic. With the former free and constant use of antiseptics is an absolute and indispensable necessity, while with the latter, except on rare occasions, they are a superfluity and an incumbrance. Without undertaking to decide as to the truth, or falsity of an exclusive bacterial pathology it may be safely affirmed that while many surgeons and gynecologists still adhere to extreme antiseptic theories and methods from a firm belief in their necessity, and still others, more perhaps from pride of consistency than from any settled convictions, the great majority of the rank and file of the profession throughout the world, are disposed to regard Listerism pure and simple as a yoke, which we, not less than our fathers, are unable to wear, and to which the patient should not be subjected. Hence it is that the universal carbolic spray is far less used now than it was formerly, while it is difficult to find an obstetrician who thinks it necessary, at least in private practice, to resort to the tedious, and irksome round of antiseptic rules so authoritatively prescribed a few years ago. There is an unwillingness on their part to abandon their faith in the time-honored "*vis medicatrix naturæ*," from a morbid fear of the all-prevailing vicious microbe. Viewed from an extra-professional or scientific stand-point, it is no tax on the credulity of any one to believe that innocent and harmless low forms of organic life found to exist in the atmosphere may under adverse conditions be transformed into morbid agents—but to suppose that the air which, we are compelled to breathe necessarily teems with countless myriads of deadly bacteria, menacing life at every turn, and ever and anon retarding convalescence, is little less than to impeach the benevolence of the all-wise Creator.

The history of ovariectomy, in the quiet and unobtrusive manner

of its introduction, furnishes a striking contrast with that of other operations of like importance. Originating in the wilds of Kentucky, it was heralded to the world without the flourish of trumpets, and with no extravagant or unrealized pretensions, yet from the days of the immortal Ephraim McDowell to the present time, it has steadily grown in favor, from one degree of popularity to another, until now it is recognized and performed by surgeons everywhere throughout the civilized world, and has been the direct means of saving the lives of thousands upon thousands of otherwise doomed females; as well as shedding lustre on American surgery. The wonderful success attending ovariectomy, and the important fact it has demonstrated, that the abdominal cavity may be cut into with far less risk of endangering life than was formerly supposed, has given rise to, and greatly popularized numerous other forms of laparotomy, some one or other of which is now performed daily everywhere and by all surgeons and gynecologists with a freedom sometimes bordering on recklessness—not only for the removal of diseased and degenerated organs, and for the many other justifiable causes, but even for the gratification of mere curiosity, under the specious pretext of exploration, assigning to the scalpel the tentative office of the exploring needle and the aspirator. The incalculable good that laparotomy has already done, and is capable of doing, should not be made the occasion for its abuse, much less for its prostitution, as there is cause to fear may be the case, especially in reference to that branch of laparotomy known as oophorectomy, or female castration. This too, notwithstanding it involves the loss of one of the more important female organs, is justly regarded as a justifiable and proper procedure when judiciously applied as a last resort in diseases otherwise irremediable, but when performed for slight or inadequate causes and except in exceedingly rare instances, for diseases such as amenorrhea, dysmenorrhea, hysteria, or for supposed reflex nervous affections, it becomes not only an abuse of surgery, but also inflicts an irreparable injury on the too confiding patient, by wantonly unsexing her. There is something exceedingly fascinating in a resort to the knife by those who are habituated to its use, but surely it is far more a triumph for surgery to avoid cutting, whenever it is possible to do so, than to operate never so brilliantly. Already, in the brief history of gynecology, it has more than once been brought into disrepute by the rash and indiscriminate resort to temporarily fashionable

operations, on certain unfortunate pelvic organs. Truly there is need of wise conservatism in this direction, and at this time. Especially should those who are just entering the profession at this in many respects most auspicious period, but when also there is such an overweening desire for novelty and notoriety, be warned of the dangers to which they are exposed, and be reminded of the fact, that, while it is fortunately true that incisions into the abdominal cavity are not necessarily fatal, it is also true that laparotomy is a capital operation, and that all wounds of the peritoneum are dangerous, and ought not to be unnecessarily or lightly inflicted.

The application of electricity to obstetrics and gynecology, is of recent date, but it bids fair to play an important part in the treatment of morbid growths and other pathological conditions, and may yet prove a valuable addition to our already well supplied armamentarium. Time and continued observation will satisfactorily determine this point. This, however, does not come within the limited range presented for myself on this occasion; for even if in its application it should be carried to unnecessary extremes before its real therapeutic value is definitely determined, such extremes are not likely to be attended with very injurious consequences. In order, therefore, to redeem the promise made at the outset, to be brief, I must give the go by to this and other interesting topics.

And now having discharged this penultimate official duty—though very imperfectly—I am ready for the last act required of me—that of welcoming to the chair, my successor, whom you will soon designate and which I assure you will afford me pleasure.

CONCENTRIC COMPOSITE PILLS.—J. Mortimer Granville suggests a method of compounding pills, which, he thinks, possesses important advantages. If one desires, for example, to administer one drug which shall be dissolved in the stomach with one which shall be dissolved in the intestine, the core of the pill, which is to be last acted upon, is first made and coated with keratin, which is not acted upon by the acid gastric juice, but dissolves readily in the alkaline fluids of the intestine. The pillule is covered then with the desired quantity of the drug which is to act on the stomach, and is again coated with gelatin or sugar, like ordinary pills.—*Brit. Med. Jour.*, Oct. 9.

ST. LOUIS MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, Nov. 2, 1886.

SCHOOL HYGIENE.

Dr. Nelson read a paper on this subject.

Dr. Todd said there was one disadvantage about limiting the time of school hours to three instead of six. It is a fact that children are kept too long in school; but a large proportion of children are sent to school to keep them out of the streets, and not to study.

Dr. Glasgow thinks a great many children are overworked at school, or kept in poorly ventilated and poorly constructed school-houses, and kept there too long; and the profession should be aroused upon this subject. Parents should take more interest and become better acquainted with the necessities of the case.

Dr. Steele remarked that for years writers have given as one of the causes of rotary curvature of the spine, the improper position of students while studying and standing in school. It was the practice until a short time since, for the classes to stand while they were reciting. Attention has been called to the disadvantages of that, and it has been largely discontinued. Generally now the pupil is required simply to stand while reciting. Girls usually throw their weight on one limb, and thus the pelvis is thrown out and the spine distorted, and, the ligaments being relaxed, the parts do not regain their proper position. Then too the position in sitting when writing, with the right arm on a high desk, the body twisted around and the left shoulder down, tending to throw the spine out of the proper line and lead to permanent deformity, is another danger.

The Stoddard school was said to be the toniest and best of the public schools in this city, and yet, for days and days, when the weather was moderate, he had seen columns of black smoke pouring out of the chimneys, with the windows in the school-rooms open. The children would come home with headaches, no one apparently regulating the heat in the rooms, the teachers being obliged to keep the windows open to let the heat out, and the children being exposed to drafts of cold air all the time. He had always thought that there should be inspectors to look after this matter of ventilation and heating. The female teachers are not quite up to it, and they have a roomful of perhaps 60 scholars to attend to, so that it is almost impossible to look after everything, but it might be made the duty of proper inspectors to regulate the heating and ventila

tion and to call the attention of the teachers to the different matters of hygienic importance.

Dr. Leete said that one of the chief reasons why there has not been a better state of affairs in respect to the environment of the children in our public schools for the last fifteen or twenty years, is that parents interest themselves little, if at all, in the condition of their children when they pass into the hands of those having the management of the schools. It is a rare exception for a school room not to become over-crowded. The public schools, and particularly the kindergarten branches, have been very much over-crowded, so that again and again he had advised parents not to send their little children to the kindergartens, and had pointed out to them the folly of expecting their children to be comfortable there in such a crowded atmosphere, particularly during that part of the season when the windows are of necessity kept closed for the greater part of the time. In the rules and regulations governing these schools, he said, there is not a word that is definite on this subject. No attention worthy of mention has been paid, until very recently, in the construction of buildings, to the matter of good ventilation; and particularly no attention worthy of mention has been paid to the very important matter of getting their cold air, during the season when they employ heating apparatus, from a wholesome source. Formerly he had found that at the Stoddard School, the intake of air was from a filthy cellar, not that there was perishing animal matter there, but it was a dusty, dirty place; the coal was kept there, and the air was necessarily filthy. In the new school-house, which has been rebuilt and refurnished, he had been informed the intake of air comes from above. In a very large number of dwellings which use heating apparatus, the intake of air is down beneath the surface of the ground, in a cellar which is often filthy; and it cannot be otherwise than injurious to have the air passing up through this cellar into the rooms to be breathed by those occupying the houses.

Dr. Homan had recently visited one of the largest educational institutions of the state, and, he could but notice the almost foul condition of the atmosphere, although the weather was not yet such as to require the windows to be closed. The building is very old, possibly forty years. It is mostly used as recitation rooms, where the classes stand for a large portion of their time, and certainly the consequences must be prejudicial to their health. The atmosphere resembled that of an old hospital.

ST LOUIS MEDICAL SOCIETY.

Stated Meeting, Oct. 30, 1886

HERNIA—SPECIMEN.

Dr. Hulbert presented a specimen of hernia, taken from a case reported to the society last summer. He said then that the patient while straining at stool had contracted the hernia, which, on examination, proved to be of the femoral form. Yet she did not present the usual symptoms of hernia, no vomiting, no constipation, no fever.

Dr. Mudd saw the case also, and it was thought at that time that it was an omental hernia. She recovered, leaving only a small lump under the skin.

A short time afterwards she was attacked by scurvy and diarrhea, and the site of hernia again became prominent with marked tenderness. She died of scurvy. Post mortem showed the first was an omental hernia, and the second was intestinal. The gut was easily separated from the omentum that was in the ring. The ring was firmly contracted.

Dr. Mudd said that the appearance of the specimen controverted the diagnosis. The specimen showed only a small portion of omentum and a considerable portion of intestine, which showed changes which must have been in progress for months or years. The knuckle of intestine included in the hernial sac had probably been there for a long time. In this case no efforts were made to reduce it, and this evidently was the proper treatment. It was not always easy in hernia to determine whether an operation was demanded or not. The indications are, if an attempt at reduction is unsuccessful, and constipation and vomiting persist with rapid pulse and anxious expression of countenance. The operation is always dangerous, but we give our patients a better chance for recovery.

Dr. Laidley recollected two cases, one of which occurred ten years ago. Was called to see a servant girl; a tumor existed over femoral ring; stercoraceous vomiting and all symptoms of obstruction of the bowel. *Dr. McPheeters* was called in, and agreed with him that in all probability it was femoral hernia. Another doctor was called who, in presence of friends, disagreed with the diagnosis, and said case was not operable. Forty-eight hours afterwards she died.

Post mortem showed fatty tumor covering the femoral ring and

in the hernial sac there was one loop of the bowel. An operation would have saved the patient. The second case occurred four or five years ago. Lady had stercoraceous vomiting and all external evidences of hernia. Dr. Armstrong saw the case with him. Had concluded to perform laparotomy. Here also, a distinguished surgeon of this city opposed operation, and the patient died. Post mortem showed a knuckle of the bowel firmly held under a fibrous band, extending from the fundus of the uterus across the sacral surfaces, and finally impacting it.

These two cases convinced the speaker of the duty of the surgeon to give the patient the benefit of a chance for life by an operation.

Dr. Stevens referred to the notable Mary Dugan case, which happened in the days of Dr. Sykes, Dr. Andrin, Dr. Beaumont and Dr. McDowell. An error in diagnosis had been made. It was supposed to be typhlo-enteritis. On puncturing the tumor, fecal matter exuded through the puncture, and it was found to be an epiplocele with an enterocoele. A suit for damages for five thousand dollars ensued. The woman lived four years with an artificial anus. Had a correct diagnosis been made and a proper operation performed, the woman might have lived for years, as otherwise she was strong and healthy.

Dr. Lutz presented a specimen, illustrating

EXTRA-CAPSULAR FRACTURE OF THE FEMUR.

The man fell through a hatchway a distance of 40 feet, and died an hour after the fall. The deformity at the hip joint was very great. Had also fracture of elbow joint.

This specimen illustrated the usual form of extra-capsular fracture, involving the greater and lesser trochanters. Specimen also showed slight ecchymosis of the capsular ligament.

LOCAL MUSCULAR SPASMS.

Dr. Shaw exhibited a patient with what he termed spasm of the genio-hyo-glossus muscle. The patient showed a spasmodic movement of the tongue forward and backward. This movement was under control of the will, and did not interfere with speech. The trouble had existed four years, and gradually grew worse.

There was pain of a neuralgic character at the roots of the upper teeth, and also a sensation as if there were broken glass on the upper part of the tongue.

Dr. Stevens considered this case one of local hyperesthesia. The origin of this affection lies hidden far back in the nervous system. There were cases of local and general hyperesthesia. Cited a case where there was constant movement of the first and second fingers upon one another. Patient first complained of unpleasant sensations in the fingers, and then movement would begin. Movements were not under control, and the sensation was always perceptible.

The affection progressed, and finally the mind became affected, Patient's father had died in the asylum at Fulton. Considered this case hereditary. Speaker could not give the pathology of this affection, but there was no doubt that the cause lay in the origin of the nerves of sensation as well as motion, in this case probably in the motor and sensory origin of the fifth pair.

Dr. Alleyne thought *Dr. Stevens* described what he called chorea, and asked *Dr. Shaw* if this idea did not occur to him in the treatment of the case.

Dr. Shaw replied that that occurred to him, but he was forced to abandon it, as observation proved to him that the movements were voluntary, for a time at least under control of the patient. Incoordination is a feature in chorea. In this case there seemed to be a rigid incoordinate movement, and resembled *tic douloureux* in many respects, but did not class it with those affections, because he recognized it as entirely beyond control of the patient. Rhythmic motions bear a much closer resemblance to the movements of *tic* than they do to the incoordinate movements of chorea.

Dr. Atwood thought little could be added to *Dr. Stevens'* remarks. Thought there was a central lesion of the sensory tract. Did not believe in the theory of chorea in this case. Mentioned the case of Judge Williams, of this city, who, after an attack of typhoid fever, was continually spitting. He had the sensation as if a hair was upon the point of his tongue, and was always spitting to get rid of it.

Dr. Williams did not consider *Dr. Stevens'* idea correct, because in this case there was no hyperesthesia of the tongue, but the muscles of motion were involved. Some years ago had treated an Italian fruit peddler for blepharo-spasm, and in connection with this affection, there was a spasmodic action of the mouth and face. His eyes would close, and then his tongue protrude, the mouth open wide, and the muscles of the neck contract and draw the chin down on the breast. This spasmodic action would last for a minute and

a half, when all the parts would relax and resume their normal position. There was no other trouble. He treated the case some time without benefit. Saw the man occasionally on the street, but the condition already described, still exists.

Dr. Fry said this class of cases afforded an interesting study. He thought the tendency was to regard them, as *Dr. Stevens* had, as being of a hyperesthetic nature.

A peripheral disturbance, if long continued, might cause central lesion, yet the motor symptoms had their origin in peripheral hyperesthesia. The nature of chorea had not been determined, and there were spasms at this day regarded as chorea.

If carefully studied, the majority of cases of chorea could be traced to peripheral irritation.

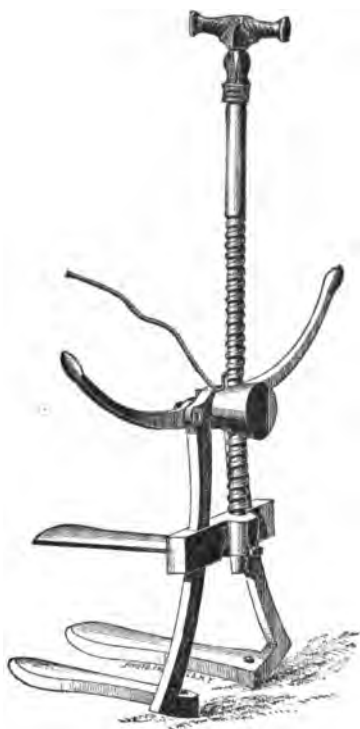
Dr. Shaw thought the motions to be incoördinate. Speaker regarded them as such. Thought, in this case, if the source of irritation could be discovered, perhaps in the distribution of the fifth pair, and relieved, the patient would be benefited, and suggested an application of a solution of cocaine.

Dr. Bremer believed that in this case the motor symptoms predominated, that there were two sets of muscles that could not be controlled, first, the muscles of the face and the lips, and that of the tongue, and that the motor disturbance of the tongue was the primary, and the motor disturbance of the lips was the secondary phenomenon. The first was due to a pathological state, the second merely an acquired habit, produced by the continual effort to control the movements of the tongue. The case is one of monospasm of the hyo-glossus nerve. Analogous cases had been described, but they were very rare, and this was the first case of the kind speaker had seen. The question was, where was the trouble located? The origin of the hyo-glossus nerve existed in the bulb of the medulla oblongata, and here the lesion existed, though no pathological diagnosis could be made, only an anatomical one. Brown-Sequard invented the term "inhibitory" action of the motor nerves. This man talks without any interference on the part of the muscles of the tongue. When the tongue was at rest he had these spastic movements, therefore there was a severance of the inhibitory centre from the higher centres. Speaker believed these cases incurable.

Dr. Shaw said that *Dr. Bremer* had expressed his own ideas about the case, withheld purposely to elicit discussion. Would like to ask some of the surgeons present if it were not possible that a re-

section of that portion of the hyo-glossus nerve which supplies the genio-hyo-glossus muscle would arrest this spasmodic movement.

Had used static electricity in this case, causing relief in from four to twenty-four hours. Used a quarter-inch spark. Held poles under tongue one-fourth inch apart, and passed spark from one pole to another.



SPECULUM FROM POMPEII.

Dr. Maughs presented a fac simile of a trivalve speculum, discovered in the ruins of Pompeii, such as was described by Aëtius, and used by Archigines 2000 years ago. (See cut.)

COMMUNICATIONS.

PASTEUR'S HYDROPHOBIA TREATMENT.

FRENCH VILLAGE, ST. CLAIR CO., ILL., }
NOVEMBER 1, 1886. }

EDITOR COURIER: In your issue of October, 1886, appears a full account of the meeting of the Medico-Chirurgical Society of St. Louis. During that meeting Dr. Maughs, one of its members gave an account of a visit he paid to M. Pasteur during his sojourn in Paris.

Disregarding the unbecoming language which he used toward the French people, including, of course, the illustrious savant, whose scientific researches have proven so beneficial to science, (for such language never strikes the party against whom it is aimed, and it would have been infinitely wiser for the doctor to dispense with it, a medical reunion not being the proper place to throw out insinuations and insults, and not being the place where the insulted ones should retaliate), I propose to rectify some of his allegations, and to display, in their true light, the facts.

I therefore hope you will do me the favor to insert in your paper the following answer thereto:

"M. Pasteur having made it a secret, no one," says Dr. Maughs, "knows anything about the nature of the treatment of hydrophobia." But that "secret" has been clearly explained by M. Pasteur himself at an open meeting of the Parisian Academy of Science. The newspapers of every country and of every language that devote any of their columns to science, have printed and reprinted the explanations given by M. Pasteur; and it seems strange to me that Dr. Maughs' eyes have not, accidentally, if not otherwise, come across some of those articles. Beginning with the principle that the human system can absorb the most virulent poison in considerable doses, without the least danger, provided it becomes accustomed to it gradually, that is to say, by beginning with infinitely

small doses and increasing them regularly and gradually, M. Pasteur came to the conclusion that if the violence of rabid virus could be lessened until it became almost inoffensive, it could then be inoculated into the system of man without danger, and that by repeating the inoculations from day to day, and at regular intervals each successive time with virus a little more intense than the preceding one, he would finally reach the point of inoculating man with the most violent virus without producing hydrophobia. This being done, the possibility of curing hydrophobia would be assured, provided this last inoculation could take place and the system become gradually accustomed, as it were, to rabid virus, before any or at least great symptoms of hydrophobia manifested themselves from the bite of the rabid animal. The indefatigable savant, after many researches, ascertained that the medullary substances were those most impregnated with rabid virus. So well have these experiments demonstrated the correctness of his theory, that to-day M. Pasteur can tell you how many hours or days a given animal will live after being inoculated with virus of different degrees of intensity. He is now in possession of the required mild virus with which to commence inoculations.

The experiments which he has made have demonstrated that the marrow of infected animals when enclosed in an air-tight bottle, will gradually lose its strength, which, at the end of fifteen days, will be almost imperceptible. This having been determined, what else remained to be done but to commence inoculating the patient with the mildest, or fifteenth day virus, and then successively day by day with the fourteenth, thirteenth, twelfth day virus, and so on down until the patient could be inoculated with the marrow of animals who had recently died from the dreaded disease, without the least danger of producing hydrophobia. The above, in all its simplicity, is M. Pasteur's hydrophobia treatment, which, according to Dr. Maughs, is a "secret" to everybody. The milk-colored liquid, which he himself saw him use in hundreds of cases, is simply the spinal marrow dissolved.

I do not desire to positively affirm that the cure of hydrophobia is definitely assured by this treatment. M. Pasteur himself is not sufficiently certain of it to place in the hands of incompetent experimenters the destiny of his discoveries, and it is for that reason that, as yet, he has refused to allow them to establish hydrophobia hospitals in New York and London. Badly conducted experiments

at the hands of incompetent men might invoke unjust criticisms upon the system of treatment which he has discovered, and the efficacy of which he himself desires to firmly establish by well authenticated instances. Also, it must be remembered that he intends to cite as instances of cure only cases in which the patients were bitten by animals, who, beyond a doubt, were affected with rabies. Those who died, notwithstanding the treatment, prove nothing concerning its efficacy. If we vaccinate an individual when the disease which we desire to overcome is already advanced in its period of incubation, it often happens that the vaccination does not prevent varioloid. It is the same with reference to rabies. The patients sent to M. Pasteur come from all parts of the world; his treatment, often commenced a long time after the date of the bite, may meet a patient too thoroughly saturated with the disease, and the result is the treatment has no effect whatever. One might as well argue that Jennerian vaccination is a failure, from the fact that in certain cases, and under given circumstances, it will not prevent varioloid, as to argue that rabid vaccination is a failure from the fact that it will not cure in all cases and under all circumstances. Without exclaiming "victory," and without belittling his experiments, let us wait for the positive results of the scientific researches of the indefatigable worker whom his detractors can not discourage; and if in the future it should be established that his theory is absolutely correct, it would be hard indeed to acknowledge that it was a Frenchman and not a German that made the grand discovery, but the whole world, including Dr. Maughs, will then have to side with him. Next month I shall ask you the favor to insert in your journal the statistical compared results of Jennerian vaccine, carbuncle vaccine and rabid vaccine—statistics and results which prove that the three vaccines are almost equal in power, one with the other. Yours respectfully,

C. H. CRISTOFFE, M. D.

THE GRAEFKE MEDAL, founded by the Ophthalmological Society of Heidelberg, is to be awarded every ten years, irrespective of nationality, to the person who shall be considered to have done the most to promote the progress of ophthalmology. Prof. Dondera, in the name of the Society, presented the first medal recently to Professor Helmholtz, the inventor of the ophthalmoscope.

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ORIGINAL ARTICLES.

SURGICAL TUBERCULOSIS.

DR. L. T. RIESMEYER, M. D., ST. LOUIS.

NO class of diseases has received more attention from modern surgeons, than the affections, known as local or surgical tuberculosis. Within the last fifteen years the methods and results of treatment of some of these affections, principally the joint-diseases, have been thoroughly revolutionized. Antisepsis, as well as the more thorough understanding of the character of tuberculosis, share equally the honor of the progress made in the treatment of these affections. Previous to the time of antisepsis the opening of a joint was in the same degree considered dangerous, as it is to-day known to be void of danger, if done under antiseptic precautions. On the other hand, before the nature of tuberculosis was thoroughly understood, and when a number of diseases, now known to be tuberculoses, were not recognized as such, the method of operating could not be so judicious and radical as it is our in time. Diseased tissue was much more apt to remain, giving rise to fistulous tracts and relapses. Thanks to Koch's discovery, a number of affections, which formerly could not be recognized to be of a tubercular nature, are now known to owe their origin to the tubercle bacillus. Moreover, the roads of infection, time of incubation, method of in-

vading the tissues, prophylaxis and heredity of tuberculosis, as well as the relation of this disease to scrofula, could be and have been, in consequence of this discovery, more thoroughly studied and observed.

The proofs necessary to call a certain process tuberculous are, besides clinical observation, the demonstration of the tubercle bacillus in the diseased tissues, the production of cultures with the products of the disease and the reproduction of tuberculosis in animals by inoculation with the virus. The latter must, of course, be done under the necessary precautions; so that such errors as have been committed by pathologists, claiming that the inoculation of foreign substances, glass or sand for instance, would also cause tuberculosis, cannot occur. For the clinician it is practically impossible to employ all these tests in order to insure the diagnosis. After the pathologists have once pointed out to him the affections, which are, almost without exception, tuberculous, he need not in each individual case demonstrate the bacillus etc. Formerly the formation of cheese was considered sufficient proof of tuberculosis. Virchow proved, however, that also other products of inflammation may undergo cheesy necrosis, and considered the demonstration of miliary tubercles necessary for the diagnosis. While it is true, that the presence of miliary tubercles is sufficient proof, there are a number of tuberculous affections where no tubercles are formed, and, when they are formed, they may have undergone disintegration, as may be the case in a tuberculous ulcer. As a rule, however, tubercles will be found in the tissue surrounding the ulceration. Among those affections where no miliary tubercles are found, but in which the bacillus Kochii has been demonstrated, microscopically as well as by cultures and inoculation of animals, are the scrofulous ulcerations of the skin and mucous membranes, and lupus. In many instances also in tuberculous lymphatic glands no tubercles are found, but only an infiltration of round cells and some giant-cells throughout the whole gland.

The principal tuberculosis which belong in the domain of surgery are those of joints and bones, sheaths of tendons, mucous bursæ, lymphatic glands, testicles, skin and mucous membranes. The fungous inflammations of joints, bones and sheaths

of tendons, pendarthrocace, caries, etc., are, according to Volkmann, almost without exception due to tuberculosis. Similar affections may occur, however, in a number of infectious diseases, osteomyelitis, syphilis, acute articular rheumatism and the exanthemata. Lately Koenig has shown that also synovitis chronica serosa is, in many instances, due to a tubercular process. The fungous inflammation of joints, arthritis granulosa, begins in children as a rule in the articular ends of the bone, in adults in the synovial membrane. The fact, that during the period of development of the skeleton the most active growth takes place at the epiphysis, explains that here the tuberculous process is most apt to make its appearance first.

Among the tuberculosis of the mucous membranes we have:

1. Tuberculosis of the tongue, in the form of ulcers and in a nodular form, which may easily be mistaken for an epithelioma.
2. Tuberculosis of the palate and fauces in the form of flat, confluent ulcers, the size of a lentil and larger, having a yellow base. They resemble syphilitic ulcerations, but have miliary tubercles at their margins, which, by one having a little experience in the examination of miliary tubercles in the various organs, may be readily seen by the naked eye.
3. Ozena tuberculosa, consisting in tubercular ulcerations in the Schneiderian membrane, and to be differentiated from rhinitis scrofula, which is due to a catarrhal condition of the mucous membrane.

4. Tuberculous ulcerations of the lips.

5. *Fistulæ ani tuberculosæ*, characterized by the formation of fungous granulations. An analogon of the latter is the form of perityphlitis, which is characterized by its insidious development and the formation of abscesses and fistulous tracts with fungous growths.

The various forms of tuberculosis of the skin are:

1. Lupus.
2. Tuberculous ulcers, principally noticed in young persons, which were formerly known as scrofulous ulcerations.
3. The rare primary tuberculosis of the skin and the primary abscesses in the deeper layers of cellular tissue, resulting from primary cutaneous infection.

4. Furunculosis tuberculosa of the skin and subcutaneous connective tissue, which makes its appearance in the form of dense, flat knots under the skin, *gommes tuberculeuses*, which soon break down and ulcerate. They principally occur in small children.

5. Abscesses having their origin in a tubercular process of bone. These are differentiated from other abscesses, such, for instance, as are due to syphilis, actinomycosis, or the entrance into the tissues of pyogenic cocci, by having an abscess-membrane (pyogenic membrane), which may be readily torn away, and which contains miliary tubercles. In connection with skin-tuberculoses I wish to say that according to Volkmann, the bacillus Kochii has also been demonstrated in the scraped-off epidermis cells of eczema scrofulosa. Of the bursæ mucosæ so far only one tuberculous affection is known, namely, that form of hygroma, in which fibrinous concretions, rice-bodies (*corpora oryzoidea*) are formed; a case of which I have reported in the *COURIER OF MEDICINE*, June, 1886.

Doctor Riedel, of the university-clinic of Goettingen, was the first who demonstrated tubercles in the fibrinous deposits covering the walls of the bursæ. Since that time all effusions of the mucous bursæ, sheaths of tendons and joints, containing rice-bodies, have been closely observed at this clinic, and, as Koenig states in an article, "Ueber die bedeutung de Faserstoffs fuer die pathologisch-anatomische und klinische entwicklung der Gelenck-und Schnenscheiden-Tuberkulose," it was a great exception that, when these fibrinous concretions were found, they did not owe their origin to the tubercle-bacillus.

The tuberculous effusions are of special interest, as they furnish a ready means of studying the development of spongy granulations. Into the layers of fibrinous deposits, covering the wall of the bursa and surrounding the tendons which pass through the bursa, blood-vessels grow, and cellular formations, tubercles, make their appearance. In operating these hygromata, the fibrinous deposits or fungous granulations, containing the tubercles, must be removed with the curette, anatomical forceps and scissors.

Koenig shows in the above quoted article that, in the hydrops fibrinosus tuberculosus of the joints, as well as in the arthritis granulosa, the fungous growths are formed in a similar way as in the mucous bursæ. In the former, however, the development of the villi of the synovial membrane, which is increased by the chronic inflammatory process, plays a role in their formation; upon these villi the fibrin is deposited and undergoes organization. Koenig makes the statement, substantiated by a great many examinations of joints, that, while in the great majority of cases the hydrops fibrinosus is of a tuberculous nature, there are more non-tuberculous cases of hydrops fibrinosus of joints, than of mucous bursæ. In many other joint diseases, arthritis deformans, chronic rheumatism and some acute inflammations of the synovial membranes, the pathological anatomy as well as the clinical aspect are, in the rough picture, the same, only the tubercles and the bacilli are absent. Also adipose tissue may form in the fungous growths of tuberculous and non-tuberculous origin, thereby giving rise to what is known as the *Lipoma arborescens* of joints. Knowing then, that in other joint diseases, fungous granulations may form, the question is, whether the fungous growths in tubercular joints are caused by the bacillus, or whether they only furnish a nidus or place of predilection for the bacillus. In other words, is the inflammatory irritation in the joint the exciting cause of the development of arthritis tuberculosa? Analogous cases are known. For instance, shortly after a contusion of both knee-joints an arthritis tuberculosa has been observed. Two cases of meningitis tuberculosa have been reported, which had developed rapidly after a blow upon the head. The experiments made by Dr. Mueller, assistant at the surgical clinic of Goettingen, throw some light upon this question. Dr. Mueller's experiments were not made for the purpose of settling the priority of the bacillus or the fungous growth, but to see whether the virus, causing tuberculous foci in bones, is carried there by the blood current. In one of these experiments, two minims of tuberculous pus were injected into the posterior tibial artery of a goat, so that part of the injection entered the nutrient artery of the tibia. The animal was perfectly well after the operation, and the wound healed

without any inflammatory reaction. Four months later a little limping. During the following nine months, the limp increased slowly, and gradually a swelling of the knee-joint developed. Thirteen months after the injection, the animal was killed, and typical tubercular fungous growths were found, of which the starting point was a wedge-shaped tubercular focus in the external tuberosity of the tibia.

The treatment for the above named localized tuberculosis is, as a general rule, thorough extirpation of all diseased tissue, removing also, if possible, some of the healthy neighboring tissue, in a similar way as in operating upon malignant tumors. To all cases, however, this rule cannot be applied, no more than the rule, only to operate for the local affection, and not in order to prevent a general infection. The latter was based upon the view, that in nearly all cases of local tuberculosis, the lungs were also tuberculous. Lately, however, quite a number of indisputable cases have been reported, where a primary tubercular infection of a wound had taken place. It must be admitted, that also in these cases there may have been a predisposition, an hereditary or latent tuberculosis at the time of infection, and that it is impossible to say, with certainty, that no tubercular foci already exist at other places.

Persistently enlarged lymphatic glands of adults should always be removed as being suspicious of tuberculosis, in order to prevent a general infection; provided the enlargement cannot be demonstrated to be due to some local irritation or pathological process of a benign character. In children, enlarged glands often disappear again by suitable diet, pure air, residence at the sea-coast, etc. Baumgarten, of Koenigsberg, considers the tissues of the growing organism to be an obstacle to the development of the tubercle-bacilli, which will only be removed under certain conditions; for instance, by a traumatism or an inflammation. For this reason, the most virulent form of tuberculosis, phthisis pulmonum, is not developed until at the border of the period of growth, when the protection offered by the growing organism, ceases.

If the glands have already undergone liquefaction or suppuration, it is questionable whether extirpation, or incision, with the

introduction of a seton, is the proper thing. The surroundings of the glands are in these cases more or less infiltrated by the morbid products, and may already be tuberculous. It frequently occurs, therefore, that some diseased tissue remains, new foci develop *in situ*, which again break down and suppurate. It has, moreover, been observed that shortly after the attempt at extirpation, an infection of the lungs took place, and, if these were already tuberculous at the time of operation, the lung trouble would often get worse after the operative interference. Furthermore, it is not unusual that the process heals by slow suppuration, leaving an anemic, white cicatrix in contradistinction to the hyperemic, red or pink cicatrix, which remains if not all diseased tissue has been removed. In the latter case also, the surroundings of the cicatrix often have a red or pinkish color, due, no doubt, to an interference with the circulation. It follows that in these cases extirpation should only be resorted to, if, with a good deal of probability, all diseased tissue can be removed. To accomplish this, the best method, probably, is to follow up the extirpation with the knife or curette, with the application of the thermo-cautery. A means worth trying seems to me the packing of the wound with styptic cotton, in order to destroy the diseased tissue which may have been left by the knife or curette. At the Polyclinic we have used this method after the extirpation of suppurating inguinal glands, where fungous growths and cheesy necrosis existed. In one case the patient came to the Polyclinic six weeks after he had acquired a chancre, with a fluctuating, painful bubo in the left groin, which was incised, and a great deal of pus removed. A few days later it was noticed that the wound-margins were greatly undermined in all directions. I enlarged the wound with grooved director and scalpel, removed a great deal of fungous and cheesy matter by curetting, and dressed with iodoform. In a few days again, large masses of fungous granulations had formed, which were thoroughly curetted, but reappeared in a short time. The next time, the curetting was followed up by packing the wound with styptic cotton. The next day the surface of the wound was covered with a dark slough, about a millimetre in thickness, and the wound now healed rapidly.

In another case of chronic lymphadenitis, occurring after chancroids of the foreskin, about five or six enlarged inguinal or femoral glands, which were partly in a state of cheesy degeneration, were removed, the wound packed with styptic cotton. Healthy granulations formed and the wound healed in a relatively short time. A third case, which was operated in a similar way by Dr. Dixon, gave the same result. In the history of these three cases, nothing pointed toward tuberculosis, and an examination for tubercles or bacilli was not made. If, however, the rapid formation of cheese is a distinguishing feature of a tubercular process, as Virchow claims, it is probable that in the first case the lymphadenitis was of a tubercular nature. The patient was an intelligent young man, of healthy family, who claimed with absolute certainty never to have had a swelling in the groin until a few weeks after he noticed the chancroids.

The fourth case was one of chronic lymphadenitis of the right inguinal glands. Patient, an anemic-looking young man, who some years ago had been troubled with scrofulous suppurating cervical glands, has been suffering for a year and a half with chronic gonorrhea, which seemed in this case to be the exciting cause of the lymphadenitis. He was operated by Dr. Tuholske, who removed the diseased tissues, consisting principally in fungous growths. No styptic cotton was used in this case, and the healing process was a very slow one. A fistulous tract formed, so that a counter-opening had to be made about three inches below Poupart's ligament, internal to the femoral vessels. The fistulous tract was injected with iodoform emulsion, but did not heal until a cat-gut was drawn through and left to be absorbed under absolute rest of the patient in bed. This really was, of the four cases, the first operated on, and had suggested the use of styptic cotton in future cases. The general health of these patients, which, as a rule, look anemic or cachectic, improves much after the operation, which is probably due to the fact that the absorption of the wound secretion and disintegrated products of inflammation is stopped, partly, no doubt, also to the rest and good nursing. Another means of making innocuous any remaining diseased tissue, may be a strong solution of carbolic acid, at least in small wounds where no absorption is to be feared. This

suggestion is based upon Koch's discovery, that carbolic acid is the best germicide for the tubercle-bacillus. According to Koch a five per cent solution of carbolic acid is sufficient to render innocuous within twenty-four hours the bacilli contained in an equal quantity of phthisical sputum.

A case, illustrating the effect of operating on suppurating cervical glands in phthisical patients, concerned a young man, 19 years of age, who had dulness on percussion over both apices of the lungs, with moist rales on inspiration and expiration, the glands from the left submaxillary region down to the clavicle, enlarged and suppurating, two communicating fistulous tracts. The glands as well as the fistulous tracts were thoroughly scraped, and all fungous and cheesy material removed. Iodoform dressing. The fistulous tracts healed partly, but broke open again, so that the scraping had to be resorted to several times. After each operation the lung-tuberculosis got worse, according to Dr. Glasgow's statement, who treated the latter.

A case, which is of special interest, as it is in all probability one of primary wound-infection, and more so, because it illustrates the time of incubation of tuberculosis in man, is that of a young man, æt. 23, who had always good health and never coughed until two years and a half ago, when he hurt his left leg at the border of middle and lower third. His parents, father 62, mother 46 years, are living and both healthy. Three sisters and one brother enjoy good health. One sister died of heart disease. About two weeks before the accident patient had taken cold and coughed a little. The wound healed rapidly, but broke open again about two weeks after he had received the injury. A short time after the accident the cough grew worse, and nine months after the same, the patient got hoarse. Cough as well as hoarseness got gradually worse and never left again. In the sputa, which I examined lately, tubercle-bacilli were found. About a year and a half ago abscesses formed at the neck. The cicatrices left have a white appearance. One cicatrix is situated in the median line, just above the sternum, between the attachments of the sterno-cleido-mastoid muscles. Here had been the first abscess. Another cicatrix is situated a little higher in the median line, and a third on the left side of

the neck, at the posterior border of the sterno-cleido-mastoid, about two inches above the clavicle. Patient came into the clinic to be treated for the ulceration of his leg at the site of the injury, which, after it had broken open again, had never healed. Several pieces of necrosed bone and fungous granulations were removed and the wound curetted. It healed under iodoform dressing in a few weeks. Shortly after the operation an abscess in the floor of the mouth was noticed and another at the posterior wall of the pharynx, protruding like a polypus from the cavum pharyngo-nasale; but out of both pus and cheesy material were removed by incision. Another abscess was discovered on the right side of the neck, from which large masses of pus and cheese were removed. An incision showed that it extended along the deep fascia of the neck down to about an inch above the clavicle. There was dulness over both apices of the lungs, moist rales and a cavity on the left side corresponding to the second intercostal space, in the mammillary line. In this case the general health improved after scraping the tubercular focus in the tibia. The abscesses in the mouth, pharynx and neck were not interfered with, excepting by incision and drainage.

The fact that curetting the tubercular focus in the tibia did not aggravate the lung troubles in contradistinction to the scraping of the cervical glands in the preceding case, is no doubt due to the difference in the distance of the tubercular processes from the lungs. In order to cause an additional infection of the lungs, either by the specific virus, *i. e.*, the virus containing tubercle-bacilli, or other pathogenic bacteria, the virus would have to enter the circulation, while from the cervical glands it would reach the lungs directly through the lymphatics. A general tubercular infection is also much more probable to occur in disease of the cervical glands, than of most other parts of the body where surgical tuberculosis may occur, from their proximity to the thoracic and right lymphatic ducts. The most usual manner, in which a general infection has been observed to take place from direct entrance of the virus into the circulation (*i. e.*, not by way of the lymphatics), is by the invasion of the walls of a vein by the tubercular process, whence it is carried by the venous current into the lungs, where it may be arrested in

the capillaries; but, if finely enough divided, it will pass the capillaries to be distributed to all parts of the body with the arterial circulation.

In the case, therefore, which I have just now described, the tubercular focus had, in all probability, attacked a vein, was carried by the venous current into the lungs where it was arrested. The sputa, passing through the larynx, inoculated the latter, whence the bacilli were carried by the lymphatic current to the glands in the median line of the neck, posterior border of the sterno-cleido-mastoid and along the carotid sheath. To some extent it may also have spread through the tissues directly. The abscesses of the pharynx and floor of the mouth probably originated by inoculation with sputa.

In connection with this case I wish to add that Middledorff and Tscherning have published cases of primary wound infection, where the period of incubation had also been fourteen days. Dr. Karg, of Leipzig, in quoting these cases, claims that the period of incubation of two weeks is an absolutely certain sign that the infection took place at the wound.

SCHOOL HYGIENE.

BY E. M. NELSON, M. D.

[CONTINUED FROM PAGE 493.]

CARE OF THE EYES.

THE attention of every thoughtful person must have been attracted by the fact of the notable increase in recent years of the use of glasses by young people. There are two causes for this fact. First, the wonderful advancement which has been made of late years in the department of ophthalmology has enabled the physician much more readily to discover and more surely to relieve visual defects, as a result of which parents are much more ready and prompt to secure such assistance for children with defective vision. Second, there has been an actual increase in the frequency of the optical defect known as myopia or near sight.

For some years observers in Germany and other European countries have studied this increasing prevalence of myopia, which is more and more pronounced in the higher classes of schools and universities. As the result of series of observations in Europe and our own country some very interesting facts have been elicited with regard to the influence of school life upon the optical condition of the eyes of students and with regard to the precautions to be observed in order to avert, so far as possible, the increase of such visual defects.

It seems to be conclusively demonstrated that the use of the eyes in school work is the direct cause of the progressive myopia.

The result of very numerous examinations has shown that the eyes of a great majority of little children younger than the school age are of normal structure, only a very small percentage being myopic. But with advancing years the proportion of near-sighted pupils in the schools notably increases. Careful studies of this subject have been made in Germany, Russia and the United States. Conrad examined three thousand and thirty-six eyes of pupils, and found among the children aged nine years 11.1 per cent of near-sighted eyes. In the highest class 62.1 per cent. Erismann found in St. Petersburg 13.6 per cent in the youngest classes to 43.3 per cent in the oldest classes, the number of eyes examined being four thousand three hundred and fifty-eight. Drs. E. G. Loring and R. H. Derby, of New York, in the examination of two thousand two hundred and sixty-five eyes found corresponding percentages of 3.5 and 26.78. C. K. Agnew found 53 per cent in students of New York College. The period covered by these examinations is that between six and twenty-one years. Reuss found in the higher classes in the gymnasia of Vienna over 60 per cent of myopic students.

As bearing upon the question whether the progressive increase of myopia in the cultured nations of Europe results directly from the effect of eye strain and other influences of school life, it may be interesting to note that Dr. MacNamara, formerly professor in the Calcutta Medical College, states that myopia is almost unknown among the lower classes in India.

Eminent oculists in this country assure me that the existence

of myopia among the laboring classes here is an exceedingly rare occurrence.

That city life exerts an unfavorable influence in these particulars is shown by the observations of Dr. Cohn, of Breslau, Germany, who found in the village schools only 1.4 per cent of myopic pupils, while among pupils of the same age in city schools the proportion of myopes was several times as great.

The injurious effect of city life is doubtless due in part to its enervating influence upon the general health, and in part to the fact that the eyes are almost constantly occupied in relatively near vision without the rest and relief that is afforded in the country by frequently looking off to the distant prospect of hills and forest.

Heredity is believed to have an influence in the causation of myopia. Dr. Loring, in his examination of pupils in the New York schools, found 24 per cent of near-sighted eyes among children of German, 19 per cent among those of Irish, and 14 per cent among those of American descent. Dr. Callan found 3.4 per cent in one school, and 1.2 per cent in another containing five hundred colored pupils. These data would seem to indicate that in those people where study and eye work are most common there is the greatest prevalence of myopia.

Other influences which combine to produce or aggravate this tendency to myopia are found in overheated and ill-ventilated school rooms, undue length of study hours or excessive intensity of application without relaxation, deficiency of out-door exercise, and other unhygienic conditions tending to dyspepsia and general debility and, as Dr. Loring expresses it, "provocative of a certain laxity of tissue and want of resistance in the investing membranes which finds its expression in the eye in a distention which is in fact myopia."

Myopia, or near-sight is the result of an incorrect shape of the eye itself; by which it becomes an imperfect optical instrument.

A healthy normal eye is nearly spherical, and the adjustment of the anterior parts is such that parallel rays of light are brought to a focus upon the retina so that when the eye is at rest distant objects are distinctly visible. In a myopic eye, however, the eye is lengthened backward and the rays of light come to a focus

some distance in front of the retina, and in order to render vision of distant objects distinct, it is necessary to use a concave glass of such strength as to allow the parallel rays to come to a focus in the right position upon the retina. Other changes also occur which further impair the action of the eye as an optical instrument. Just how these changes in the eye are effected is not fully established, but it is generally agreed that long continued work at short range in childhood will produce them. It is thought that such work, especially when the head is bent forward and the hygienic conditions are unfavorable, as in so many school rooms, causes a congestion and a low grade of inflammation of the tissues of the eyeball with the consequent diminished resistance which allows them to yield more readily to pressure. In reading, writing, drawing or other close work, the eyes are constantly turned inward by the action of the muscles attached to their outer coat which control the movement of the eyes, and by this constant pressure upon the eyeballs use the relaxed tissues to yield at the part where there is the least support, that is backward, causing the change in form above mentioned.

Observation has shown that unless the myopia has advanced to an extreme degree, it seldom increases notably in amount after adult life is reached. Donders says that he has never seen a case of progressive myopia originating after the twentieth year, and Erismann has rarely, if ever, seen it commence after the fifteenth or sixteenth year. This fact renders it all the more important that all possible precautions shall be taken during the school life of children to avert these dangers and to change, so far as practicable, the conditions which have seemed to make progressive myopia such a constant companion of literary culture and advanced civilization.

I have already noticed the precautions which should be taken in the construction of the building with reference to the provision for light, and so arranging the seats that the light shall fall upon the work advantageously; but every condition which bears upon the health of the pupil has its direct influence upon this matter of the production and increase of myopia. So all that has been said or shall be said with reference to the heating and ventilation of the school room, the hours of work, and provision

for suitable exercise and recreation, have an added importance by reason of the influence which these causes have upon the powers of vision.

Dr. Derby has suggested that every child should be examined on entering school, and every half year thereafter during his or her school life, in order to detect early evidences of developing myopia. This can readily be done by means of cards of test letters prepared for the purpose. Whenever it is found by such testing that the pupil's vision is deficient for either near or remote objects, a competent physician should be consulted in order that suitable glasses may be prescribed and the defect remedied as fully and as speedily as possible.

Many a child is blamed or punished for inattention or laziness and stupidity, when he is really suffering from defective vision without being at all aware of the fact.

Near-sighted children should be placed near to the blackboard when class work is in progress, so that they may be enabled to see distinctly, and near the teacher at other times, in order to have the same advantage enjoyed by the other pupils from seeing the expression of the teacher's face and movements of his lips.

In the selection of text books for use in schools attention should be paid not only to the merit of the author's work but also to the manner in which the publisher has issued them.

The paper for such books should be tinted, either a cream color or a pale blue, and the surface should be uncalendered and free from gloss; the type should give a clear and distinct impression and should not be so small as to cause a perceptible effort to distinguish the letters. Books which contain numerous foot notes or inserts in very small type are ill adapted to school work. It is of special importance that lexicons, which are so constantly in use in the study of the classics or of foreign modern languages, should be printed clearly and legibly. A pale ink which does not make a distinct line at once as it leaves the pen is trying to the eyes and should not be used for school work under any circumstances.

Some practical suggestions made by Dr. Josten (quoted in the *Sanitarian* for August, 1884, from the Eleventh Annual Report of the Westphalian Society for Science and Art) are:

"1. That test letters be placed on the walls of the school room and that the sufficiency of light in the room be measured by the ease with which they can be read; and that whenever the light measured in this way falls below a required amount, all writing by the pupils should be stopped.

2. That writing and drawing should be confined to the second morning hour, because the light is best at that time, the eyes of the children are not fatigued and a fifteen minutes recess follows immediately after.

3. That care should be taken to keep the children in an upright position.

4. That the black slates which are so injurious to the eye should be replaced by artificial white slates.

5. That the best lighted rooms be assigned to the youngest scholars, and that they be prevented, as much as possible, from writing and reading with their eyes too near their books.

6. That teachers should notify parents of children who are found to be near-sighted, or who have other trouble with their eyes in the first years of school, and advise that they consult a physician on the subject."

PHYSICAL TRAINING.

Papers have been presented at several of the recent meetings of the American Public Health Association upon the subject of "Physical Training." The attention of educators has been directed for some years past to the value of physical training and systematic exercise in maintaining and improving the physical well being in connection with the work done for the culture of the mind. Several of the leading colleges or universities of our country have now a fully equipped gymnasium under the supervision of an educated physician, who directs the exercises to be pursued, and has at the same time the general oversight of the health of the students and of sanitary matters about the institution. The first of our American colleges to adopt a system of this sort was Amherst, where the results have been most satisfactory. The object aimed at is not to secure feats of agility and strength, but to keep the whole body in vigor. The students are required to meet the Professor regularly, as at any other college appoint-

ment, and take such exercises as the Professor deems best suited to their needs. In addition to such required exercise, opportunity is afforded to those who wish to perform additional feats.

The mode of exercise which seems to be most popular with the students and from which the most benefit has been derived is that secured by classes executing together rhythmical movements with wooden dumb-bells of appropriate weight, with an accompaniment of music.

The setting apart of a few minutes twice or three times in each school session to the practice of free gymnastics or calisthenics has been attended with excellent results in many schools, and would be of advantage in all. It affords the children a relief from the strain of too long continued attention to their books, sets the blood to coursing more freely, and allows a renewal of the air supply by opening windows which might not be safely done when the children were sitting quietly at their desks.

MEDICAL INSPECTORS.

It would be exceedingly desirable if in all our cities and towns there were medical officers who should have to the public and private schools a relation somewhat analogous to that of the gymnasium professor at Amherst. He should have supervision over the plans for building or remodeling school houses in order to secure that they shall conform to all sanitary requirements.

He should have a voice in the arrangement of the curriculum and programme of studies and in determining all matters which pertain to the hygiene of school life. In Paris and Brussels such medical inspection of the schools is provided for, and it is claimed that excellent results have been thereby secured.

CONTAGIOUS DISEASES.

Inasmuch as an early symptom of all the contagious diseases is the occurrence of fever, it may be regarded as a rule that in a day school any scholar with an elevated temperature, flushed face, quick pulse and other signs of fever should be sent home at once; and in a boarding school should be immediately separated from the other scholars and put under the care of a physician.

Most cities and some states now go so far as to require that

no pupil shall be admitted to any of the public schools without the certificate of a physician that such pupil has been vaccinated or is otherwise protected against the small-pox; nor shall any child be allowed to attend any school in the city while any member of the household to which such child belongs is sick of small-pox, diphtheria or scarlet fever or during a period of at least two weeks after the death, recovery or removal of such sick person, such length of time being certified in writing to the teacher by a physician or some responsible member of the family. (School Hygiene, p. 104.)

SPECIAL NEEDS OF GIRLS.

In spite of the arguments and illustrations advanced of late years by those who advocate the practice of medicine and law by women, or their engagement in other employments which have generally been undertaken by men only, it is nevertheless true that a great majority of girls in their teens do need a certain degree of relief from the rigid exactions of school life during certain monthly periods, and that much suffering and prolonged ill health has been the result of the assumed necessity of doing the same amount of work and accomplishing the same work during those days as at other times.

It may not be practicable, especially at public schools where the youth of both sexes pursue the same studies in classes together to formulate any specific rules to cover these necessities. But parents, teachers, and the girls themselves should know and bear in mind the fact that such conditions must be taken into consideration in estimating the value and success of work done, and it cannot be too strongly impressed upon all that the preservation of a healthy body for the abode of a healthy mind is the highest result of education.

PRIZES AND REWARDS.

That a system of awarding prizes for the highest attainment in special studies or in all the school work stimulates scholars generally to greater efforts than they are likely to put forth otherwise is evidenced by the experience of both teachers and pupils. It is unquestionable that the nervous strain and excitement, the eager anxiety for success and the sickening apprehen-

sion or disheartening realization of failure, have often been more potent factors than the amount of mental effort put forth by the student, in producing those cases of nervous break down above referred to. These influences are more noticeable and more injurious as a rule in classes of girls than in a similar class of boys doing the same work.

The same criticism will hold against school exhibitions and public examinations as usually conducted. They involve an excessive nervous strain upon both teachers and scholars in the preparation; and this extra work generally comes at a season when the vital powers are exhausted by the long continued work of the year and when the weather is especially enervating and depressing.

While some form of examination may be conceded to be necessary in order to determine the quality of the work done and the preparation of the pupils for promotion in the course of study, it may be so conducted as to avoid much of that excessive strain which makes them so objectionable.

SCHOOL LUNCHES.

School lunches may be not inappropriately noted in connection with the subject of physical training. Many scholars bring unsuitable and indigestible food to school for their lunches; others bring none at all. In several private schools of St. Louis provision has been made for serving warm lunches for such of the pupils as choose to pay a small sum for the accomodation instead of eating a cold lunch brought from home. Where this can be done it will be found of decided advantage to the health of the pupils. Not long ago it was reported that in certain districts of London inhabited by the poorer classes the experiment was tried of serving penny lunches at noon for the children. The improved character of the work done conclusively demonstrated the desirability of suitable nutrition for school children.

TEACHERS.—DUTIES TO THEMSELVES.

Inasmuch as the best work in teaching can only be done when the teacher is himself in his best physical condition, a teacher's first duty, under any ordinary circumstances, is to take care of his own health. It would be well for most teach-

ers to avoid boarding in the immediate vicinity of their school-house. Let the residence be far enough away from school to secure good exercise by walking. As the antithesis of this, the teacher should plan for as absolute rest as possible on the Sabbath. It is very seldom expedient for a teacher to have a class in the Sunday school, never unless in vigorous health.

The school work, so far as it can be so arranged, should be done in the schoolroom and in school hours. Much has been said and with justice as to the injurious effect of over work on the pupil; but comparatively little note has been made of the severely exhausting drafts made upon the strength of teachers in our common schools.

The work should be so arranged as to avoid the necessity of such an amount of work at home in examining and correcting essays or examination papers, and in making out averages and percentages. Time should be provided in school hours for the greater part of that work, so that the teacher may have the hours at home for recreation, rest and direct preparation for the work of the following day.

Vacations should be utilized for securing the greatest possible amount of recreation and invigoration, either in visiting with friends or in travel in a refreshing climate, avoiding crowded, fashionable summer resorts and gaining as much intimacy as is possible with the face of nature in the woods and mountains.

DUTIES TO THE SCHOLARS.

The teacher having so ordered his own life that he shall be such an one as he would like to see his pupils become, must be watchful as he guides and trains the opening minds to secure the best practicable hygienic conditions for their bodies.

He must watch the ventilation, to see that the pupils are not poisoned by foul air; the heating, that they are not chilled on the one hand or weakened by too high a temperature on the other. He must restrain the ambitious pupil who is endangering his health by overwork, and caution those who are allowing the allurements of "society" to sap and drain strength which otherwise would be abundant for legitimate school duty. He must warn parents when children give evidences in school of im-

paired vision or any failure of health. He must protect the others by sending home at once children who give evidence of any febrile disease or in whose families any infectious diseases are prevailing.

It is by no means an easy task that is assumed by the conscientious teacher. The responsibility of caring for the physical health of so many children and youth, of helping them to know themselves, at the same time that they learn the lessons in books and in the world about them, is one which will tax the energy of the stoutest, and which is worthy of the efforts of the wisest and the best.

THE HOTTENTOT VENUS.

By G. M. B. MAUGHS, M. D. ST. LOUIS.

(*Read before the St. Louis Obstetrical and Gynecological Society, Dec. 16, '86.*)

THE Jardin des Plantes, rendered world-renowned by the labors of Buffon and Cuvier, situated some two miles above the Louvre, on the opposite side of the Seine, presents the highest state of landscape gardening, with graveled walks, shaded by beautifully-trimmed trees, with artistically arranged squares and flower-beds and hot-houses, containing almost every known medicinal plant and tropical flower. The medicinal plants have their properties designated by the color of the card giving their botanical name, a green card designating poisonous plants. This arrangement is intended to facilitate the studies of the student. On these grounds there is a broad, extensive menagerie containing a well-selected variety of animals. At the far end of the grounds there are extensive and well-arranged buildings containing the finest and most extensive natural history collection in the world, consisting of about 200,000 specimens. The rooms containing anthropoid and anthropological collections have a carefully arranged and almost infinite number of lemurs, monkeys, orang-outangs and gorillas, skeletons and crania, male and female. Of men, skeletons, crania, casts and portraits, paint-

ings, photographs, busts, mummies and fossils of all the races and tribes of men from every part of the world.

Nothing could exceed the perfection and beauty of this collection, containing, among others, the collection of the great phrenologist Goll. The crania, beginning with the lower forms of monkeys, are so placed on the shelves that the highest and most perfect of these crania are in juxtaposition with those of the lowest forms of humanity, into which they gradually shade with lines of such slight difference that it is difficult to say exactly where the monkey leaves off and the man begins. But the greatest resemblance is in the crania of the young orang-outangs. As these animals become older, the shape of their heads becomes less human. We can account for this in part by their modes and habits of life, which give a constant necessity for much exercise of the muscles of mastication in cracking nuts, etc. This draws out the plastic maxillary bones, and elevates and enlarges the zygomatic arches, giving a more prognathous and brute-like appearance, with a less facial angle. In even the lowest of the human race, the use of stones in breaking up, pulverizing, their food, and the use of fire in preparing it, by rendering it more tender, lessens this strain upon the muscles of mastication, and consequently its results; and yet in these we have this prognathous highly marked.

Here are also found in jars a great many infant monstrosities, giving great facility in studying the laws of teratology. We were much interested in the skeleton of Salem el Halben, the assassin of the French General Blake in Egypt. We were quite certain that in the small unsymmetrical head we could readily trace the worst of all moral instincts. Such a head, while it might make a fanatic, could never evolve the higher virtues. But nothing here interested us so much as the facsimile likeness in wax of the Hottentot Venus. We were familiar with this individual who lived and died at Paris about fifty years ago, from our medical reading. She was called Venus in derision, and was shown to the medical schools. At the time of her death she was pregnant, as shown by the large discoloration of the areola of the mammæ and the protuberant abdomen. She was the ugliest human being in existence, and yet a typical Hottentot female.

Many animals interest us for their beauty. Among most birds it is the males that are most beautiful. In these nature and an artistic natural selection, especially in the pheasants, have rendered the males exceedingly beautiful. In some few birds of a lower type, both males and females are so abominably uncouth and ugly that we must believe that natural selection has practised upon an uncouth primordial type for æons, to make them as monstrous as possible. In the nobler races of humanity, it is the females who are beautiful, nature and esthetical selection combining to render them so to the greatest perfectibility. But in this, the lowest type of the *genus homo*, where the man-like monkey has scarcely evolved into the monkey-like man, like ugly birds, selection has assisted the primordial type in distorting the form and features. As is well known, in the savage the esthetical often runs in lines directly opposite to that in the higher forms of humanity. Here the unsymmetrical and monstrous is the beautiful, as shown in their fetishes, which are nearly always objects the most repulsive to the cultivated races. This race, which most nearly approaches the simiæ, have not been on their feet in the erect position long enough to give them an entirely natural appearance in this position. The arms are long, the body short and very large, much like the gorilla, the nostrils wide and flat, feet flat, with the great toe separated somewhat like the thumb, the forehead low and retreating, large hinder head, while the pelvis is placed so obliquely to the spinal column that the os sacrum stands at almost right angles to it, while the enormous development of the nates forms a posterior projection in this Venus so great that when in the erect position, one might almost sit upon it as upon a chair. At first I was disposed to attribute this great development of the nates and posterior projection to some peculiarity of this individual female, but on examining some photographs and water colors taken in profile, the same development, to the same extent, existed, showing this to be a type peculiarity. This posterior projection doubtless had, in the early existence of this race—possibly the primordial peculiarity of humanity—its uses. Doubtless when in the wild state, many thousands of years since, and when the movements of the individual in the semi-erect position were aided by leaning

forward on a stick, as gorillas now stand erect, their infants were carried here, perhaps held by a band of loop of skin of animal passing over the abdomen of the mother. After the child could hold on with its hands and arms, even this became unnecessary. This gave the animal the free use of its arms and hands in maintaining the semi-erect position. Here then we have not a deformity or reversion of type, but a rudimentary or primordial formation, an evolution from which has been rendered possible, or caused by the changed conditions, in which other modes of progression and carrying their infants, have been used or rendered possible, practised and developed by slow degrees, and in vast periods of time.

But another peculiarity in this Hottentot Venus, and which I would not have noticed had I not known from my medical reading that it existed and was the formation for which she was shown to the *clèves*—was the extraordinary, wonderful development of the nymphæ, forming an apron that quite covered the pudenda. On this wax model there is a fig-leaf placed over the pubis, but knowing what this was intended to hide, the repulsive fold that hung from the vestibule, I carefully examined under and behind it, when the apron was seen hanging between the upper portion of the thighs, much as the male scrotum.

This apron completely covers and hides the vulva, and when the individual was lying upon her back, reached as far as the middle of the perineum, or to the anus, and rendered copulation in this position impossible without first raising or lifting up this apron from over the vulva. This peculiarity, while it exists to a greater or less extent in all Hottentot women, was not shown in the photographs or water colors, which were taken in profile, to show the uncouth shape, with the posterior projection.

So entirely brutal are the bodily formation and physiognomy of this Hottentot female, that a female gorilla would scarcely make a less desirable bed-fellow. And yet, Paris had surmounted this difficulty, as we have seen that she was pregnant. Now, while in Africa there is from natural causes and race peculiarities, an extraordinary development of the nymphæ, often rendering circumcision in the female, as in the male, necessary, so much so that in ancient Egypt, in the streets of Cairo there

might be seen the circumcisor, who cried "what woman wants to be cut;" yet in these Hottentot females, this apron formation is doubtless in part, the work of art, as we know of no animal lower than man, none of the simiæ, in which there is any approach toward this apron formation: we cannot refer it to a reversion of type or rudimental state. While then the nymphæ in this race are greatly developed, doubtless this is greatly increased and the apron formed by frequent traction in early life. In examining the pelvis in these negroes, we find given the the shape of the elongated, narrow, prognathous heads, and consequently the race type, almost as clearly as would be given in examining their crania. In them the pelvis is narrower, deeper, and the antero-posterior diameter greater than in our females. It is only in the nobler races of humanity, with their developed facial angle, high foreheads, broad bi-parietal diameter of the heads, that we have the light, shallow, symmetrical pelvis, in which the bis-iliac diameter is greater than the sacro-pubic in all other animals, the sacro-pubic being the greatest diameter: consequently, only the females of these races could give birth to a Cuvier, a Nuntar or a Humboldt. With the Hottentot, such a pregnancy would be necessarily fatal, consequently we must await the slow process of evolution ere this part of the dark continent is illuminated by an indigenous scientific light. With these facts, we are prepared to receive without surprise the statement of Sir Samuel Baker, that in Central Africa he found tribes so little superior to the beasts of the forests that they had no idea of God or demons, of the soul or future state, and consequently no words to express these ideas.

In this collection are a great number of very ancient crania, from pre-historic mounds, kitchen-middens and caves, that give by comparison, unmistakable evidence of improvement in their posterity. Of course these crania are smaller, with less symmetrical development, more elongated and prognathous, with a less facial angle than those of their posterity.

Just as the males of birds and the human Caucasian female have been rendered more beautiful by many thousands of years of esthetic selection, and the muscles of athletes developed by exercise, have the crania of this race been rendered larger, more

symmetrical by brain culture. To suppose otherwise, to think that civilization, culture of the nervous centres, education, had made no improvement in the thinking organ, the brain, and consequently in the size and shape of the cranium, would be to ignore all experience. And, as all things that exist, do so by their adaptation to the necessary conditions of their existence, to suppose that with this alteration in the size and shape of the head, there was not a corresponding alteration in the female pelvis, would be at least unphilosophical.

Other skeletons here are fossil. One in limestone, quite similar to one in the British museum, found in South America, others in bereccia. But, while these fossil skeletons prove that man, like other animals, does exist in fossil remains, they add nothing to the proof of his, doubtless great antiquity, as the formations in which these exist are recent, are perhaps not so old as some of the crania found in prehistoric mounds, or those found in France and England in caves in connection with the bones of their cotemporary, but now extinct, antiglacial animals.

POPULAR STATISTICS.—The following paragraph, which has been the rounds of the lay press, is an illustration of the utter unreliability of the popular statistician:

"A writer, after considerable investigation, computes that the people of London daily consume 500,000 oxen, 200,000 calves, 300,000 hogs, 2,000,000 sheep, 500,000,000 pounds of fish and the same of oysters, 8,000,000 fowls, and wash it all down with 200,000,000 quarts of beer."

It has been generally understood that the poorer classes in England not only in the rural districts, but in the metropolis as well, were unable to procure fresh meat except in very limited quantities. Evidently there must be a mistake somewhere, for a *very slight investigation* shows that if the computation of the aforesaid writer is even approximately correct, the population of London being 4,000,000 people, the average amount daily consumed by each man, woman and child in that city is one-eighth of an ox, one twentieth of a calf, three-fortieths of a hog, one-half of a sheep, one hundred and twenty-five pounds of fish and the same of oysters, two fowls and fifty quarts of beer. Where do they put it?

CASES FROM PRACTICE.

DIFFERENTIAL DIAGNOSIS OF LEUKEMIA AND HODG-KIN'S DISEASE.

BY THOS. C. BIDDLE, M. D., READING, KAS.

[*Read before the Lyon Co., Kan., Medical Society December 1, 1886.*]

GENTLEMEN: It is my purpose to present to you this evening the history of a case, that was to me exceedingly interesting. I feel warranted in asserting that the case is certainly very unusual. So distinguished a practitioner as Robert Bartholow reports having had but one case. Its extreme rarity, therefore, furnished one of the difficulties I have had in satisfying my mind, absolutely, that my diagnosis was correct. Yet the more thought and study I give the case, the more deep grows my conviction that I was right. And with the hope of eliciting confirmatory or contradictory opinions from gentlemen of the society, I am induced to submit this history for your consideration:

Sept. 6th, Julius R., a lad 17 years, called at my office for medical treatment. My examination was somewhat hurried and incomplete. He dated the commencement of his sickness at about the last of August, and up to that date had never been sick in his life. He had enjoyed exceptionally good health. He complained of a feeling of general malaise, loss of ambition, etc.; pulse and temperature normal. Represented no pathological changes that were noticeable; but, as he presented a perfect type of the phlegmo-bilious temperament, and had been under malarial influences, I concluded his trouble was due to a condition of biliousness, and prescribed accordingly.

He called again September 10, and stated that he had been feeling worse. My attention was at once arrested by the swollen condition of his face and neck, and upon examination I found a general enlargement of the glandular system.

The cervical, the submaxillary and sublingual, the occipital, axillary and inguinal glands were enlarged, varying in size from that of a filbert in the occipital to that of a large size walnut in the submaxillary. None of them were tender or painful. Pulse and temperature normal. Over the body, confined chiefly however to the trunk, I found an eruption petechial in character, and unmistakably purpura. The mucous lining of the nares was livid, and appeared congested. His appetite had been good.

September 15. Noticeable enlargement over region of spleen. Could trace margins of spleen which gave evidence of enlargement.

17th. Had severe paroxysm of epistaxis, which was controlled with some difficulty. All over body the least injuries were followed by blood-stains. The conjunctiva was becoming very anemic. The gums were spongy and oozing blood. The spleen was growing larger. The appetite rather more than normal. Bowels about regular.

20th. I was called to control epistaxis.

26th. I was called again to control hemorrhage. Blood had been oozing from nares and pharynx during the week. Pulse 85; temp. 97°. Anemia beginning to show plainly; though his skin was very dark naturally. Patient rapidly losing strength; confined to his bed all the time. Limbs becoming emaciated. Frequent desire to take food.

Patient passed through the next week without any particular change, the hemorrhagic diathesis being the most prominent feature. At the end of this period the edema about the face had become markedly reduced, as had also some of the glandular enlargements. The fulness over the spleen appeared less. Patient at this time was becoming extremely pale. In fact the pallor had become a striking feature of the case. He was of a cadaverous appearance. I was called October 10. Patient had had a severe attack of epistaxis. Had bled since 2 a. m.; and it was 10 before I reached him. I readily controlled it by plugging anterior nares. Left him about 12. He was feeling about as well as he had during past week, though perhaps more exhausted. This fact, however, seemed to me due more to the excitement and loss of rest, incident to the epistaxis, than to the loss of blood, *per se*. I was called early next morning, and arrived in time to see him die. I was informed that there had been no particular change in his case till about 2 A. M., after

which he became restless, with labored respiration. The heart was the first vital point that ceased to perform its functions.

Now, gentlemen, the above is an imperfect history of a case that was surrounded with more than a usual amount of interest to medical men. And I also believe you will agree with me in the opinion that the chief interest in the case rested on the point of diagnosis. "What was the matter?" Absence of all inflammatory symptoms, pains, tenderness, fever, etc., would exclude any septic trouble involving the glandular system.

Some other affections, as glandular syphilis or scrofula might be excluded, but I don't think they would suggest themselves forcibly enough to demand attention in a paper of this character.

I therefore believe you would all arrive at the same conclusion that I did, and propound this question: Is this a case of leucocythemia, or perhaps more properly, leukemia, or is it a case of pseudo-leukemia, or Hodgkin's disease?

In the study of the clinical history of these diseases we find them presenting many features that are very similar; in both we find the glandular enlargement of my case; we find the extreme anemia and the slight febrile tendency. But we also discover a difference in the course of these events, both as regards time and manner.

In leukemia, we learn the initial history of the case is one of anemia; of slow, progressive development, resisting all treatment, and only followed by glandular enlargement after an average duration of about eight months, while in Hodgkin's disease the glandular enlargement is the primary symptom, and the anemia succeeds to the glandular enlargement. Again we learn that in leucocythemia the spleen is the first gland to enlarge, though it might not be discovered until enlargements elsewhere had directed attention to it, while in Hodgkin's disease the cervical lymphatics are the first glands to become involved, and the spleen is not changed till later.

Thus we find these very similar conditions afford valuable diagnostic differences.

The hemorrhagic diathesis that formed so conspicuous a feature of this case, is very characteristic of leucocythemia. In none of the literature on the subject at my command can I find any mention of this cachexia in relation to Hodgkin's disease. It is not mentioned.

The microscope is, however, the key that will unlock the problem of these cases most completely.

In leukemia the relative proportion of white to red blood corpuscles is greatly changed. In Hodgkin's disease this change is very slight, if any.

Also the method of comparing stains of healthy blood, with that of suspected blood, is a valuable adjunct to diagnosis. Now, having reviewed these, the more important points in the differential diagnosis of these similar diseases, let us apply them to our case, and ascertain how conclusively we can answer our query: Was this a case of leukemia; or was it pseudo-leukemia?

Then, first, what was the premonitory history?

He had never experienced an ill day until less than a week before his first call. There was no anemia. These two points are very essential to the premonitory history of leukemia.

2. The first manifestation of the disease was enlargement of the cervical lymphatics, a very marked characteristic of Hodgkin's disease.

And though they were followed rapidly by enlargement of other glands, I could not discover any enlargement of the spleen until some time later. And not earlier than a fortnight afterward did the anemia begin to develop.

What was the result of the stain test? There was a slight difference between the stain of the patient's blood and that of healthy blood; but it did not present the striking contrast that we would expect to find in leucocythemia. In fact the difference was not more than would be found in simple anemia. I sent Dr. Gardner a specimen of the blood for microscopic examination. He reported that he found the white corpuscles in the proportion of one to every thirty or thirty-five red ones; whereas the normal ratio is about one to fifty. And one high authority says there must be not less than one to six to constitute leukemia. Consequently, according to the crucial test, this could not have been a case of leukemia; and if it was not, it was surely a case of Hodgkin's disease. And further I believe this conclusion is strengthened by the rapid course of the disease. Leukemia is more chronic in its history; and while this was unusually rapid, even for Hodgkin's disease, yet I regard this as an extremely rapid case.

Now allow me to dwell for a moment on the peculiarity of my case that was most difficult for me to associate with my diagnosis. I refer to the hemorrhagic diathesis, which was a very important factor in its history. It is also a characteristic feature of leucocythemia.

But according to my information, it is not a symptom of Hodgkin's disease.

But I believe the evidence in the case is sufficient to warrant the theory that it was purpura, and that it was related to the case as a complication. And the complication was probably a potent factor in the rapid course pursued by this case. Regarding the prognosis, my case corroborated that of the books. Sooner or later they prove fatal.

The treatment presents so little that is of benefit that it scarcely inspires any interest.

I treated this case with iron and quinine, and a general line of supporting treatment. Later I resorted to electricity. And coincident with its application I observed the reduction of the glandular enlargements, of which I made note in the history.

With these imperfect remarks I close, and hope they will afford a text, from which the society may gather a few practical ideas that will prove of lasting value.

SPONTANEOUS CURE OF CIRROID ANEURISM.

— — —
BY H. V. FERRELL, M. D., CARTERVILLE, ILL.
— — —

A cirroid aneurism is a vascular tumor formed by the dilatation and elongation of an artery or arteries, the term cirroid being used when the trunks of the larger vessels are involved, and 'Aneurism by anastomosis' when the smaller vessels or capillaries are affected.

They are difficult to treat, various modes of treatment having been tried, such as direct pressure, injection, the application of ligatures to the vessels that converge toward the growth, and to the main artery supplying the part. The tumor has been laid open and treated by pressure, with a view of causing its obliteration by inflammatory exudation. Successful instances of this form of practice have been recorded, but in the main no good success has been attained. The best success has followed the removal of the growth either by the application of the ligature or by excision.

The disease is said to have occasionally undergone spontaneous cure. A patient was exhibited to the New York Pathological Society by Dr. Krackowizer, in whom this had occurred to a great extent, pulsation had disappeared, and the tumor had become solid

and shriveled in some of its points, and the continual rushing noise formerly perceptible to the patient, being inaudible while he was quiet. In the same communication Dr. K. referred to two other cases as being recorded by Orfila and Chevalier.

About three years ago a young gentleman some 20 years of age, came before the Williamson County Medical Association. He had had a large pulsating tumor above the right clavicle for a long time. The case was carefully examined by the members, and was unanimously, so far as I now remember, pronounced to be an aneurism by



FIG. 1.

anastomosis, arterial tumor, cirroid aneurism, some making no distinction between these terms.

I had the case under observation for a year or more, and made repeated examinations, and was clearly satisfied that it was a cirroid aneurism involving the branches of the thyroid axis, excepting, probably, the inferior thyroid. The transversalis colli and supra-scapular could be easily made out enlarged, tortuous with distinct

aneurismal murmur. The picture (Fig. 1) shows the condition of the tumor at that time.

He took measles and was attended by Dr. N. H. Bentley. He informs me that the tumor had a very red, angry look, pulsated strongly and seemed about to rupture. He administered fl. ex. verat.



FIG. 2.¹

vir., fl. ext. ergot, and tr. iron freely, and also applied a compress. The patient recovered from the measles—that was in February, '81, and thereafter the tumor began to decrease in size, the pulsation and thrill entirely ceased. The picture (Fig. 2) shows his present appearance.

¹In drawing Fig. 2 from the photograph the artist has made the present appearance of the tumor too pronounced. It is much less prominent in reality than appears from the illustration.—[Ed.]

The remains of the tumor seem to be mostly thickened edematous skin; can be gathered up in the hand and rolled loosely about; feeling deep, however, we can find a part of what remains of the vessels, but no pulsation or thrill.

The tumor is evidently cured. What did it? Was it the ergot, tr. of iron and verat. vir.? These remedies from their physiological action might seem to have had something to do with the cure, but they have been tried so often without success that it would require a long stretch of the imagination to give them any credit in this case. Did the violent febrile action attending the measles do it? Dr. Bentley says the temperature rose to 106.5°. All that would seem to have had a contrary effect. The patient thinks it was done by a faith doctor. It in all probability was a spontaneous recovery—a recovery by some means unknown to us.

SUCCESSFUL TRACHEOTOMY FOR A COCKLEBUR IN THE LARYNX.

S. T. ARMSTRONG, M. D., PH. D., MEMPHIS, TENN., *Passed Assistant Surgeon U. S. Marine Hospital Service,*

The following case is reported as a contribution to the statistics of foreign bodies in the trachea, and is an illustration of the comparative safety of tracheotomy in such cases.

On the afternoon of October 11, Stephen Miller, a negro, æt. 11, while running in a field with his mouth open, accidentally swallowed a cocklebur blown by the wind. He immediately called his mother, who was near him, and she—zealous to remove the offending body—introduced her finger into his mouth, and could just touch the bur, succeeding in shoving it further down the larynx. On this failure she delayed proceedings until reaching her home; there on the 12th and 13th she made repeated efforts to secure the bur.

She lived on President's Island, just south of Memphis, Tenn., where there was no physician; so on October 14, as the boy's breathing was constantly becoming more difficult, respiration and deglutition painful, she brought him to Dr. R. M. Pate, of Memphis, who employed every available method without securing the bur. Unwilling to advise or undertake operative interference, he directed

some palliative measures, and told the boy to call again on the 16th.

On that date I saw the case in consultation. The boy was fairly developed; his face had an anxious expression; respiration stridulous; phonation almost impossible; examination of the fauces revealed nothing abnormal except that it was excessively sensitive, and this to us seemed to surpass anything before experienced.

With the greatest difficulty a laryngeal mirror was kept in position, and a brownish discoloration, with ulceration of the larynx, and a large amount of mucus, seen in the right ventricle. Curved forceps were introduced but failed to secure the foreign body, if present. The introduction of the mirror and forceps had caused, notwithstanding the local application of a 5 per cent cocaine solution, such vomiting and retching that nothing more could be done, so further procedures were deferred until the following day.

On October 17, the fauces were brushed with a 20 per cent solution of cocaine, irritation being only slightly moderated. The laryngeal mirror was better tolerated, and the brownish discoloration of the day before now well-defined as a cocklebur, but covered with mucus. Forceps were again introduced, but after an hour's work the bur could not be secured. Tracheotomy was therefore recommended and accepted.

The patient was chloroformed, the skin washed with a bichloride solution, the neck made tense, an inch long incision made from the thyroid cartilage downward; the fascia and muscle dissected and torn away, bleeding points controlled by tension or ligature, and the trachea incised. With the coughing that occurs in such cases was ejected a considerable amount of viscid mucus.

The curved forceps were introduced through the incision but would not dislodge the bur. With the finger introduced into the mouth, and the tip of the forceps forcing the right vocal band upward, the bur was touched and after some manipulation removed through the mouth. The trachea and wound were sutured, iodine form applied, and the boy recovered well from the operation. The subsequent history of the case in its progress to recovery, presented nothing worthy of record.

There are three courses that may be considered by every physician in the case of a cocklebur in the larynx:

1. Removal by forceps, or other similar means.
2. Removal by tracheotomy.
3. Letting the bur remain *in situ* with trust in the *vis medicatrix*

naturæ.

As an illustration of the first, the following reported cases are briefly referred to:

Dr. L. A. Dugas, in the case of a negro boy who swallowed a cocklebur found difficulty in removing it because the movements of the larynx prevented the seizure of the bur, which could be felt with the fingers, passed forceps along his finger and removed the bur.—*Southern Med. & Surg. Jour.*, 1853.

Dr. W. C. Glasgow removed a cocklebur by the [Schrotter-Turck forceps; and also records a case wherein these failed, subsequent tracheotomy failed, and eventually the bur was removed by a curved forceps.—*ST. LOUIS COURIER OF MEDICINE*, 1879.

Dr. Max Thorner removed a cocklebur located between the vocal cords, after failure with the Schrotter forceps, by the sponge instrument of Voltolini.—*Cincinnati Lancet-Clinic*, July 1886.

But the most ingenious method of removal, and an admirable illustration of the fertility in resources of our country practitioners is the case of Dr. D. B. Crowley who could feel with his finger the cocklebur in the larynx of a negro boy. Having no instruments at hand he wrapped his index finger with cotton, passed it into the throat, by a rotary motion entangled the spicules of the bur, and so removed it.—*Medical News*, Dec. 1886.

As regards the second course it may be considered with the third:

In the statistics of foreign bodies in the trachea, collected by Mr. Dunham, there was a mortality of 42.5 per cent in cases without operation, and of 24.8 per cent in operative cases.—*Holmes' System of Surgery*, Vol. II.

The elaborate essay of Dr. J. R. Weist, (Foreign Bodies in the Air Passages.—*Trans. Am. Surg. Assoc.*, 1882), founded on a study of a thousand cases of foreign bodies in the air passages, shows a mortality of 23.5 per cent in unoperated cases, 27.4 per cent in operative cases, and 1.6 per cent in removals by operations other than bronchotomy.

Whatever may be the cause of the wide divergence between the two statisticians need not be here considered. But in his paper Dr. Weist records twenty-six cases of cocklebur, without operation, of which nineteen recovered and seven died; while in eleven cases operated upon all recovered.

Since the publication of his paper besides the cases of Drs. Thorner and Crowley, the only recorded cases of cocklebur in the

larynx I have been able to find are successful laryngotomy by Drs. Van Note, (*St. Louis Courier of Medicine*, 1884), W. S. Rose, (*Louisville Med. News*, 1885), and C. W. Jordan (*Trans. Miss. State Med. Soc.*, 1886).

From the character of the bur, and the ease with which it may, by ulceration, become firmly fixed in the tissues, spontaneous expulsion at a late date is hardly to be hoped for. And as 26.9 per cent of unoperated cases are fatal, and all operated cases have recovered, it would seem that failing to remove the bur by forceps, or sponge, or cotton, tracheotomy is indicated and justifiable.

CASE OF SARCOMA OF THE CONCHA.

BY M. D. JONES, M. D., *Assistant to the Otological Clinic St. Louis Post-Graduate School of Medicine.*

P. H., negro, æt. 17, of robust health, servant, presented himself at the aural clinic of the Post-Graduate school on Oct. 23, 1886, for treatment.

An examination of the right auricle showed a lobulated non-pedunculated tumor about the size of a chestnut, springing from the centre of the concha, filling it, and hiding the orifice of the external meatus. The mass looked glossy, and it occurred to me at once that it was a huge polyp, protruding from the meatus. The patient stated that two months previously he noticed a pimple on his ear, which itched a great deal. He scratched it and removed repeatedly a scab, which was followed each time by moderate bleeding. Suddenly the pimple began growing, and in a few weeks attained the present size.

At no time was there any pain about the auricle. The hearing on that side was dull, due to the mechanical obstruction offered by the tumor, but a later test proved the hearing normal on both sides. The growth was removed with a cold wire snare and handed to Dr. Frank A. Glasgow, of this city, who kindly furnished me the following microscopical report on the character of the mass: "The tumor consists microscopically of small fusiform and irregular cells, having a varying amount of tissue between them. This intercellular tissue absorbs glycerine much more rapidly than the cells themselves, so that if the preparation is examined shortly after immer-

sion in glycerine, one sees a fine network surrounding each cell. Much of this disappears when the cells have become saturated. I have noticed this peculiarity of sarcoma, and it may assist in the diagnosis of these tumors. The muscle cells and the endothelia of the blood vessels are evidently undergoing proliferation. The cells of the vessel walls resemble much the cells of the tumor proper. Some of the small arteries have entirely lost their lumen from the enlargement of the cell elements of their walls. The cellular proliferation extends to the subcutaneous structures, the epithelia appearing normal. The dark line peculiar to the negro race is present. In places in the section are small spaces of granular debris, probably old effused blood. I should denominate the above a small spindle celled sarcoma. From the condition of the blood vessels I expect it will recur possibly at some remote point. There is a marked absence of fibrous tissue in the tumor, making it differ very materially from a fibro-sarcoma of the skin." I must confess that sarcoma never occurred to me, or more care would have been taken to keep the patient under observation.

At his second and last visit to the clinic, he was stripped and carefully searched for other growths, but none were found. Nothing of interest concerning the antecedents of the patient was elicited.

The text books on otology are silent about sarcoma of the ear, except Burnett, who cites in the last edition of his work a case reported by M. Rondat, in the *Gazette Med. de Paris*, 1875, of sarcoma of the lobule. Its growth was slow for twenty years, when it then spread rapidly, and included the whole lobule, with part of the tragus.

The new growth was "reddish and flat, with some eroded spots. On the hinder edge there was a pretty large ulcer; a second smaller ulcer extended from the under part of the tragus out upon the skin of the neck."

The lobule with a small portion of the tragus was excised, when the patient was lost sight of.

In a work entitled, "*De la Sarcomatose Cutanée*," by Dr. Leon Perrin, 1886, is found a report of fifty-four cases of sarcoma of the skin, all that had been reported by observers up to that time. Out of this number the auricles were involved twice secondarily, and once primarily.

The latter case was reported by Dr. Hardaway, of this city in the *Journal of Cutaneous and Venereal Diseases*, Oct., 1884. The pa-

tient's mother had died of uterine cancer. Two years before coming under observation, there appeared on the lobule of the left ear a reddish nodule, slightly transparent, and about the size of a kidney bean. There was some itching, but no desquamation or ulceration. At the end of six months the tumor was removed. Six months after the operation, several other nodules appeared on the right side of the neck. Later, the auricles assumed a purplish hue, and became infiltrated.

Fibro-sarcoma of the lobule is not infrequent, and is met generally in the negro. Sarcoma of the auricle, however, is rare, and the case reported here makes the third one where the cancer was found invading the pinna primarily.

2725 Washington Ave.

CITY HOSPITAL REPORT.

H. C. DALTON, SUPERINTENDENT.

Reported by DR. BRANSFORD LEWIS, Senior Assistant Physician.

CIRRHOSIS OF THE LIVER WITH CONTRACTION OF THE FISSURE FOR THE VENA CAVA.

Aug. 9. H. W., male, æt. 54, widower, occupation porter, American. No history of hereditary disease in family; patient denies having had any evidences of syphilis. Has been healthy up to beginning of present sickness. For the last five years has been drinking a good deal of beer and whiskey every day. Eight weeks ago he first noticed his feet were swelled, this lasted a few days and was followed shortly afterward by swelling of the abdomen. Five weeks after beginning of illness, he began to suffer from shooting pains in the abdomen, which would start from the epigastric, and run into the left lumbar region. Appetite and digestion have been good; there has been no vomiting or other symptom of alimentary derangement.

Physical examination shows that the upper abdominal organs, and those of the thorax are pushed upwards by the large quantity of ascitic fluid which is present. Circumference of abdomen is 117 cent. (47 inches). Superficial veins of abdomen are enlarged; there is edema of lower extremities.

The interesting feature of the case is a loud blowing sound, heard most distinctly within an area, the boundary of which is oval in shape, $3\frac{1}{2}$ cent. ($1\frac{1}{8}$ in.) wide, and 5 cent. (2 in.) long, located over the apex of the ensiform appendix, its long diameter almost parallel with the sternum. This sound is constant, increased in intensity by inspiration (especially a deep one) and diminished during expiration and suspension of respiration. It is not affected by the heart's action. No throbbing or pulsation is to be felt over the site of the *bruit*; but light palpation discovers a very fine, constant crepitation, simulating the feeling of a slight amount of air in the cellular tissue."

The ascitic fluid was withdrawn by means of trocar and cannula, when the liver could be plainly outlined and felt to be depressed and nodular; the lower margin of its left lobe reaches six finger-breadths below tip of the xiphoid cartilage. The site of the bruit remained the same as before tapping and changed in none of its characteristics. Deep pressure into the abdomen between the ensiform process and umbilicus caused the sound to cease for a minute or two, when it gradually regained its former intensity, pressure at same time being continued. Upon its being withdrawn, the sound became louder than usual, as if an obstruction to its continuance had been taken away. Pressure on the liver, causing it to approach the spinal column, brought about the the same phenomenon; and the sound was made to cease entirely by grasping and lifting liver from the spine, (thus relieving vena cava of some pressure from the weight of the liver). Urine, sp. gr. 1020; normal.

Patient was tapped; and put under the influence of comp. jalap powder, several times before his death, the fluid reaccumulating each time. The bruit lasted up to the time of his death, which occurred Sept. 29, 1886.

AUTOPSY.

Liver weighed 1460 grams (about 47 oz.) measured 23 cent. (9 inches) long; right lobe 17 cent. (7 in.) wide; left lobe 11 cent. ($4\frac{1}{4}$ in.) wide; liver's greatest thickness 6 cent. ($2\frac{1}{4}$ in.). Its entire surface was covered with hobnail irregularities. It was extremely dense and hard, and no blood flowed from its out surface; it was rather pale in color. The fissure for the vena cava was almost a canal, was somewhat contracted, and its walls were hard, admitting the little finger with difficulty.

The gall-bladder contained a small quantity of tar-like bile. Mucous membrane of the stomach and intestinal canal was normal.

Thanks are given Dr. A. S. McCarty for assistance rendered in this case.

MALARIAL FEVER WITH UNCONSCIOUSNESS.—RECOVERY.

CASE I.—B. C., male, æt. —, Irishman, single, laborer. Admitted Sept. 16, 1886.

At the time he entered reception room of hospital patient seemed to be very weak and was very disinclined to talk. He said that he was taken sick with a chill and fever two weeks before. The paroxysms had recurred each day since then. He had had a diarrhea for a few days, but this had ceased. He had come from swampy country in Arkansas since the beginning of the attack.

Soon after going to bed, patient sank into a state of semi-unconsciousness, from which he could be aroused only with difficulty. Upon attempting to give him medicine, or milk-punch, which had been ordered, he resisted vigorously. He would pay no attention to anything said to him. He showed no signs of paralysis nor symptoms of uremia. Only after energetic shaking could he be induced to answer questions, and then in a muttering inarticulate manner. Heart, lungs and liver were normal to physical examination; spleen slightly enlarged. Pupils normal. Patient gave evidence of pain when pressure was made on abdomen. Patient was catheterized and 200 cc. (6 oz.) of very dark colored urine were drawn off. Its specific gravity was 1.025; it was of acid reaction; and contained a normal amount of chlorides and phosphates, and a considerable quantity of albumen. A few granular and hyaline casts were also found.

Cinchonidia in twenty grain doses every three hours, and stimulants were administered, with the result in twenty-four hours, that patient became entirely rational, took medicine and nourishment without objection, and talked freely. His bowels, which had been somewhat constipated, were moved with a purgative. Patient constantly and rapidly improved thereafter, and had no more chills. By Sept. 30, albumen and casts had disappeared from urine, and patient felt perfectly well; he was then discharged at his own request.

JAN.	TEMP.	A. M.		TEMP.	P. M.	
		PULSE.	RESP.		PULSE.	RESP.
17	100.4	80	18	98.7	76	18
18	99.5	80	21	98.1	76	21
19	97.5	68	21	98.1	78	21
20	98.7	73	18	98.3	67	18
21	98.1	66	18	98.1	66	18
22	97.7	60	18			

MALARIAL FEVER WITH STUPOR.—RECOVERY.

CASE II.—R. A., male, æt. 35, born in Scotland, single, laborer. Admitted Sept. 30, 1886.

Patient, being unable to walk to the division, was carried there on a stretcher. He seemed much debilitated and averse to talking. Family history was good. Patient stated that he had been sick about two weeks previous to which he had had no chill, but had experienced some fever during the illness. A constant, severe headache was his greatest annoyance. Diarrhea had been present a few days only, a week before his entrance. Patient refused to take any supper, paid no attention to questions asked, or directions given him. He was neither unconscious nor insensible, but was in a state of stupor, from which, by vigorous handling, he could be aroused sufficiently to express his disapproval of the method used, by grunting and turning in bed. His teeth were kept firmly closed when an attempt was made to administer medicine or food, and if it was forced into his mouth, he would immediately attempt to reject it. Urine was passed in bed. Physical examination disclosed no abnormality with heart, lungs, liver or spleen. Tongue was moist and covered with thin white coating. Pupils were responsive to light and of equal size. Patient gave evidence of pain when pressure was made in the lower part of abdomen. Urine drawn with catheter, was reddish amber color, and sp.-gr. 1.024, faintly albuminous; chlorides and phosphates normal in quantity. No casts or sugar were found. Temperature, which was 37.50 (99.5° F.) at time of his entrance in the morning, arose toward evening to 39° C. (102.2° F.). Pulse 80, and of good strength. Respiration normal. Cinchonidia was given in gram (15 grain) doses four times during the day, and in half gram (7½ grain) suppositories twice during the night.

On the following morning, patient was much better, and was quite willing to talk, though he was still irrational. A day later, patient was sensible; said that he had recently come from a mala-

rious district in Texas, where he had been having attacks of intermittent fever all summer; they had become much more severe about ten days before his admittance to hospital, and on Sept. 28, he had had a hard chill lasting four hours; had recovered from this, and the last occurrence of which he could remember previous to his arrival at hospital, was his walking along the street. Patient had never had any epileptic attacks.

From this time, improvement was rapid and without interruption, patient departed well, on Oct. 8, 1886.

SEPT. 30 OCT.	A. M.			P. M.		
	TEMP.	PULSE.	RESP.	TEMP.	PULSE.	RESP.
	99.5	80	20	102.2	87	22
1	99.5	68	21	101.5	76	22
2	98.6	73	19	101.0	73	21
3	98.4	74	21	99.0	78	18
4	99.5	78	18	98.8	64	20

MALARIAL INTOXICATION.—STUPOR.—REVIVAL.—RELAPSE.—RECOVERY.

CASE III.—G. M., æt. 31, Missourian, single, laborer. Admitted Oct. 11, 1886.

Patient was carried to ward on stretcher. Refused to say more than that he had been sick two weeks; would answer "yes" and "no" indifferently to questions. He was not unconscious or insensible; was stupid, and inattentive to his surroundings, persistent questioning seeming to irritate him to a certain extent. He soon became very restless, and continually rolled his head from side to side on the pillow. No evidence of injury or paralysis was found. Countenance was sallow and somewhat cyanosed. Pupils were normal; gums not significant; some sordes, probably old, on teeth; tongue moist and coated white. Lungs and liver normal; spleen enlarged to percussion and palpation. Soft systolic murmurs were audible at apex and base of heart, over the aortic and pulmonary artery and into the carotids. A loud venous hum was to be heard in jugulars of both sides. The apical murmur was not transmitted toward the axilla; heart was not hypertrophied nor dilated; pulse was full and regular, rather soft and compressible, all evidences that the murmurs heard were due to anemia rather than an organic lesion of the heart. Respiration was shallow, rapid and labored.

General tenderness over the abdomen was marked. Patient passed urine in bed; bowels were moved with an enema, nothing character-

istic about the evacuation. Urine drawn with catheter, was acid, its specific gravity 1.008, its color brownish, chlorides and phosphates normal in quantity; no albumen nor casts.

One gram (15 grains) of cinchonidia was given every three hours until patient was thoroughly cinchonized; stimulants in the form of milk-punch and egg-nog were given during the night, with benefit to the patient, as was evident the next morning. He was then able to state that not long since he had been in the low, moist regions of southern Missouri, and for two weeks had suffered with daily attacks of chills and fever; thought that the last one, occurring on the day before, had been of more than ordinary severity. About four o'clock on the morning of Oct. 13, patient's temperature began to rise, and he returned to the state above described, with the addition that his respiration became stertorous, and he was even worse than before. Force only could compel him to take the medicine, etc., ordered. 1.6 gm. (25 grains) of cinchonidia were immediately given him; to counteract the adynamia, in conjunction with the stimulants above mentioned, .003 gm. ($\frac{1}{30}$ grain) of strychnia sulphate was administered hypodermically three times a day. Again patient recovered his normal state, after which there were no relapses, patient being kept continuously under the influence of cinchona, to which tr. ferri chloridi was soon added. Recovery was rapid and complete. Patient was discharged well, Oct. 22, '86.

OCT.	A. M.			P. M.		
	TEMP.	PULSE.	RESP.	TEMP.	PULSE.	RESP.
11				103.7	116	27
12	98.6	94	24	98.5	93	23
13	101.0	88	18	100.3	90	18
14	99.3	87	18	97.9	88	18
15	98.3	80	16	97.5	83	18
16	97.5	78	16	98.3	79	20
17	97.4	80	18	98.1	74	19

Thanks are due to Dr. J. L. Adams for assistance rendered in connection with these cases.

Cases reported by DR. WM. TOWNSEND PORTER, Senior Assistant Physician.

CASE IV.—RECTAL STRICTURE WITH ULCERATION; OPERATION. A CLASSICAL CASE.

W. W. King, æt. 46, a machinist by trade, was admitted Oct. 23, 1886. He was an intelligent and observing man.

No case of consumption, scrofula, or rectal disease had occurred

among his relatives. He himself had suffered no illness of consequence, aside from his present disease, and had never been injured in any way. He denied venereal infection. Since 1883 his life had been spent in a swampy, malarial part of south-west Missouri. He had an attack of intermittent fever after his admittance to the hospital. Patient's food has been good and his surroundings hygienic. He chews freely, but is temperate in the use of liquors and highly seasoned food.

In the autumn of 1861, patient was a soldier in the regular army, and while crossing the Colorado desert, fell ill with dysentery. Two months later, when almost well, he noticed streaks of blood in his stools, and went for examination to the post surgeon, who diagnosed ulceration with stricture. Patient had no pain at this time. Improved by treatment, he marched to rejoin his company, and the exertion caused a return of the blood and pus in the stools. From that time to this the disease has been more or less troublesome. The amount of morbid discharge has grown gradually, and since 1870 has been sometimes as much as eight fluid ounces of blood and mucus in twenty-four hours.

He has slight pain above the anus. "It is a bearing-down pain," he says, "and as if a weight was dragging there." It is at times sharp and again dull, and is accompanied by a constant desire to evacuate the bowels, but when he yields to this desire, he commonly finds that nothing passes. The pain is increased by coughing, by the upright position and by movements of the body, and is sometimes aggravated by defecation, depending on the condition of the bowels. It is not made worse by constipation. Occasionally it is worse immediately after defecation, continuing a long time if he remains upright, but passing away entirely upon his lying down. The pain sometimes makes him sick at his stomach. The passage of feces and flatus through his fistula causes a stinging sensation.

The discharge is cream-like, sometimes tinged with blood, and often looking like pink paint. Its odor is not especially offensive. Patient has periodical tenesmus, which almost always comes on when he is standing up, and is sometimes relieved by defecation and sometimes not.

The very moment he rises from bed in the morning, he is compelled to go to stool, and there passes blood and mucus but rarely feces. Sometimes he cannot reach the closet quickly enough on rising. After the first movement he feels but partially relieved, and

has rather an uneasy sensation. He finds it necessary to go again after breakfast, and this time the stool is larger and the proportion of blood and mucus less. Often his bowels move five or six times between breakfast and dinner, but he seldom has an operation in the afternoon. If he lies down directly after defecating, he is tolerably comfortable. His feces are yellow and pinched flat; occasionally they are tape-like, but almost always appear in small, flat, broken pieces of medium consistence. Patient sleeps well. His appetite fluctuates. There is no urinary difficulty.

The anus is somewhat patulous, and surrounding it is a ring of club-shaped flaps of skin. The parts are covered with a watery, purulent discharge. On the left side of the anus is a bluish patch, in the centre of which is a large drop of pus, covering an orifice about the size of a knitting needle. The sphincters are lax, and the wall of the gut is thickened and ulcerated in all directions. About 9 centimetres ($3\frac{1}{2}$ inches) from the anus is a stricture which admits the finger-tip.

On Nov. 3, the stricture was incised posteriorly and dilated, and the fistula divided, by Dr. H. H. Mudd. The parts were dressed with iodoform and gauze, and the bowels ordered confined for four days. The rectal bougie was used every fifth day. Patient had a slight incontinence until the first week in December. On Dec. 7, he left the hospital in order to enter the Soldier's Home at Leavenworth, Kas., and a letter recently received from him states that the incisions have entirely healed, and, although the stricture is of course still present, his condition is materially improved by the operation.

CASE II.—CONTUSION OF DESCENDING COLON.

Edward Collins, æt. 40, admitted Aug. 10, 1886. Fell on Aug. 16, a distance of ten feet, striking his left side on a plank. After the accident he was unable to walk for an hour, and could breathe only with great difficulty. He was confined to his bed until the next day. For two days he had severe pain in the left lumbar region anteriorly, and a burning sensation in the glans penis during urination. There was some difficulty in getting the water to flow, but no blood was passed per urethram, and no change was noticed in the quantity or appearance of the urine. The bowels were rather loose for several days, and about a tablespoonful of blood was passed with each of the first two motions after the accident. De-

fecation was accompanied by slight pain. While quiet in bed he was entirely free from pain, but suffered considerably when he turned over or walked or stooped. This pain was never felt posteriorly. His appetite was good, he had no unusual thirst, the tongue was clean, and the heart, lungs, liver and spleen were normal. There was tenderness on pressure over the descending colon. Treatment was rest in bed and a milk diet. Patient was discharged "well", Sept. 3.

Dr. Perkins has assisted in collecting the notes on this case.

STRICTURE OF URETHRA ; TRAUMATIC RUPTURE OF BLADDER AND
SPLEEN. DEATH. AUTOPSY.

Daniel Walters, aged 35, was sent to the Hospital, June 21. 1886, to be treated for stricture. He said that two years ago he had gonorrhea and a year afterwards observed a diminution in the size of his urethral stream. A 15 French sound was passed with difficulty. The chief stricture was in the bulbo-membranous urethra, and gradual dilatation was employed up to 23 French. The passage of the sounds was followed by urethral chill and fever. This yielded to treatment but returned on the night of the 24th and he was found wandering about the halls. The next morning he had no fever, and appeared perfectly rational at 7:45 P. M. Shortly after that hour he jumped from the third-story striking on his face and abdomen on the bricks below.

When carried back to bed he complained of great pain in his abdomen and left side. No external injury was apparent except a deep wound exposing the right olecranon process. That same night an attempt was made to pass a soft catheter into the bladder, but without success. Later in the night patient made several ineffectual attempts to pass his urine. He had high fever, was restless and complained of much thirst. His pulse was growing frequent and feeble, and his face had become very pale and somewhat pinched. The surface of his body began to be covered with a cold, clammy perspiration. The following day, June 26, he complained of pain all over his abdomen and in his hips. He was very weak, but quite rational. With a yellow English catheter a quantity of bloody fluid was withdrawn from the bladder. He grew gradually

weaker on the 27th, and was severely taxed by a cough which came on during that night. Toward morning he vomited a dark-looking fluid. He died at 5:20 P. M., June 28.

The autopsy was held six hours after death. The peritoneal cavity contained about 325 centimetres (about 10 oz.) of fluid blood. The visceral layers of peritoneum were everywhere reddened in streaks and patches. The spleen weighed 280 grams (about 9 ozs). From behind forwards, over the centre of the organ, ran a shallow tear from which protruded a clot which was larger at the posterior border and gradually lessened in size towards the anterior margin of the spleen. The color of the organ was dark and the consistence normal. The bladder was very small, and at the fundus was a rent about five centimetres (two inches) long. The walls of the bladder were very thick, and its mucous membrane was hypertrophied, dark in color, and congested. The mucous membrane of the urethra was darkened in color. At the commencement of the membranous portion was a moderately tight stricture about 1.3 cent. ($\frac{1}{4}$ inch) in length. At this point the urethra, when laid open, displayed a softened, ulcerated patch. In the prostatic urethra were seen bands of mucous membrane diverging from the median line as they passed backwards. The openings at the trigone were patent, and prostatic fluid could be squeezed through the prostatic ducts. The other viscera were normal. The spinal cord was not examined.

CONCUSSION OF BRAIN, WITH PARALYSIS OF RIGHT THIRD NERVE.
RECOVERY.

REPORTED BY DR. BRANSFORD LEWIS, *Senior Assistant Physician.*
City Hospital.

J. E., male, æt. 28, Irishman, single, tinner. Admitted August 31, 1886.

Patient was brought in unconscious. Small contusions and abrasions were found on chest, arms and legs; slight contusions about lids of left eye, near its inner canthus, and slight abrasions on right side

of nose. Lids of both eyes were contused. Nothing was observed indicating direct injury to either eye-ball. Patient was unable to move right eye, which was constantly turned outwards. Its pupil was widely dilated and immobile. Ptosis was marked in the right lid. No other paralysis was evident. Temperature 38° C. (100.4 F.); pulse weak and rapid; respirations rather labored, 20 per minute. There were occasional tetanic contractions of the left arm, and involuntary evacuations of bladder and bowel.

From relatives it was learned that patient had been in a fight, and had afterwards fallen down stairs.

During the first five days of his illness, patient remained in a semi-delirious state, sleeping but little, tossing continuously, and having a tendency to keep his head rotated to the left side. He took nourishment readily, and displayed no further signs of paralysis; talked sensibly at times, but irrationally a greater portion of the time. Sight of right eye was affected only by the abnormal amount of light entering the dilated pupil; he could easily count fingers at a distance and distinguish marks on the ceiling, but complained of the brightness of objects. On the seventh day, signs of improvement, mental and physical, were observed; right pupil had contracted some, and was mobile; patient could exercise more control over eyeball and lid, and was more sensible. Specific gravity of urine, at that time, 1031; urine otherwise normal.

Convalescence progressed rapidly and patient was allowed to sit up about the twentieth day, and to walk a few days later. On the thirty-second, he complained of numbness and slight pain from left elbow to finger-tips, affecting the parts supplied by the ulnar nerve. The little and ring fingers were found to be markedly paretic. This paresis passed off, to a great extent, together with most of the signs of paralysis of the third nerve, so that at the time of his departure, Oct. 25, a very slight external strabismus and small relative dilatation of pupil of right side was the only remaining evidence of his former injury.

Treatment employed was at first cold applications to head, and antipyrin as indicated. Rest and nutritious diet were strictly maintained.

Credit is due Dr. J. L. Adams, of the house-staff, for assistance rendered in this case.

EDITORIAL.

MORTALITY IN ST. LOUIS IN 1886.

We are indebted to Dr. Gib. W. Carson, clerk of the St. Louis Board of Health, for the following statistics from the forthcoming annual report for 1886:

The total mortality for the year was 8,268, being 778 more than in the preceding year.

The annual death rate per 1,000 with an estimated population of 400,000 was 20.67.

The total mortality for 1885 was 7,490 and that for 1884 was 7,887.

The deaths were distributed as follows with regard to sex, social relation and color.

Males	4,530	Married	2,931	White	7,437
Females	3,738	Single	5,337	Colored	831

The deaths which occurred at an age less than five years numbered 3,434, or 41.5 per cent; of these 3,135 were white and 299 were colored.

With regard to the causes of death we find that there were 2,371 deaths from zymotic diseases, 1,605 deaths from constitutional diseases 3,130 from local diseases, 749 from developmental diseases, and 413 deaths from violence.

In the following list will be found the causes of death in full detail:

Small-Pox.....	—	Bronchitis.....	330
Measles.....	6	Pneumonia.....	497
Scarlatina.....	149	Other Diseases Respiratory Or	
Diphtheria.....	719	gans.....	192
Membranous Croup.....	160	Diseases of the Circulatory Sys-	
Whooping Cough.....	76	tem.....	875

Typhoid Fever.....	124	Meningitis and Encephalitis.....	208
Cerebro-Spinal Fever.....	24	Convulsions and Trismus.....	441
Remittent, Intermittent, Typho-Ma- larial, Congestive and Simple Con- tinued Fever.....	279	Heat Stroke.....	14
Puerperal Fever.....	61	Apoplexy.....	104
Diarrheal Diseases—Under 5 years....	334	Other Diseases of the Brain and Nervous System.....	325
Diarrheal Diseases—Other ages.....	97	Cirrhosis of Liver and Hepatitis....	129
Erysipelas.....	21	Enteritis, Gastro-Enteritis, Peri- tonitis and Gastritis.....	264
Pyemia and Septicemia.....	34	Bright's Disease and Nephritis.....	139
Syphilis.....	32	Other Diseases Urinary Organs....	72
Inanition.....	206	Diseases Generative Organs.....	17
Alcoholism.....	37	Diseases of the Locomotory Or- gans.....	5
Other Zymotic Diseases.....	12	Diseases of the Integument.....	4
Rheumatism and Gout.....	20	Accident of Pregnancy and Child- birth.....	21
Cancer and Malignant Tumor.....	149	Congenital Debility and Malforma- tion.....	411
Phthisis and Tuberculosis Pulmon....	915	Senility.....	317
Marasmus—Tabes Mesenterica and Scrofula.....	353	Surgical Operations.....	20
Hydrocephalus, Tubercular Menin- gitis.....	60	Deaths by Suicide.....	95
Other Constitutional Diseases.....	108	Deaths by Homicide.....	39
		Deaths by Accident.....	257
		Execution by warrant of law.....	2

One curiosity noticed is the death from measles of one patient over 70 years of age. It is an interesting fact that no death from small-pox and no case of small-pox has been reported to the health department during the year.

The nativity of the deceased is given as follows:

St. Louis.....	4,001	Switzerland.....	53
Missouri.....	263	Austrian Empire.....	62
Other parts of the U. S.....	1,618	Sweden and Norway.....	16
Canada.....	21	Russia.....	13
England.....	121	Netherlands.....	8
Scotland.....	13	Denmark.....	4
Wales.....	7	Italy.....	19
Ireland.....	657	Other foreign countries.....	35
Germany.....	1,168	Unknown.....	175
France.....	35		
Total.....		8,268	

The following table gives a comparison as to mortality from all causes and from the seven principal zymotic diseases in the nine largest cities of this country:

	Estimated Population.	Total Deaths.	Annual rate per 1,000.	Small-Pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Darrdheal Diseases.
Baltimore.....	417,220	8,339	19.90	1,201	32	190	91	150	875	
Boston.....	400,000	9,268	23.17	—	36	81	329	37	135	705
Brooklyn.....	745,108	15,790	21.19	7,104	339	780	260	122	1,151	
Chicago.....	630,000	13,709	21.1	4,126	220	944	112	484	1,093	
Cincinnati.....	325,000	6,170	18.98	—	145	104	195	41	145	442
New Orleans.....	238,000	6,291	26.43	—	1	5	95	14	29	304
New York.....	1,439,037	37,350	25.96	31,668	371	1727	575	5325	3,494	
Philadelphia.....	971,363	13,709	20.56	2	14	253	417	87	614	917
St. Louis.....	400,000	8,268	20.67	—	6	149	719	78	124	431

With regard to certain diseases, notably consumption, it would be a matter of interest to know whether the disease developed during residence here or not. In order to accumulate data bearing upon this point, a space has been prepared in the blanks for certificates of death in which to indicate the duration of residence in the city prior to death. We learn that physicians have so generally omitted to fill this blank as to render it impracticable to compile any statistics of value. We would therefore urge upon members of the profession in the city to take pains whenever practicable to fill all the blanks in the certificates of death.

As will be seen by data given elsewhere, St. Louis has suffered during the past year more than any other American city from diphtheria, the deaths from this cause numbering 719. On the other hand we observe that the mortality from measles has been very light, only six deaths being reported, while some of the Eastern cities have had epidemics of this disease of special malignity.

The total number of births reported during the year was 10,296, of which there were 9,900 white and 396 colored. There were 5,287 males and 5,002 females, and the sex of seven was not stated. There were 765 still births reported.

DIPHTHERIA STATISTICS.

One of the results of the unusual prevalence of diphtheria in St. Louis during the past few months has been the accumulation in the Health Office of a large amount of statistical and other observations of interest on this subject.

For the following tabular statements we are indebted to the courtesy of Mr. C. W. Francis, Chief Sanitary Officer.

Table I. contains a record of the mortality from diphtheria with the proportionate rate per 10,000 of population during those years of the last twenty in which the disease was specially prevalent in the respective cities.

Table II. contains a similar record with regard to the ten largest cities of the United States, the data being given for four years of greatest mortality in the case of all but the last three. From this it appears that while during the year 1886 the rate of mortality from diphtheria in St. Louis was higher than that of any other city in the country, it was by no means so high as that recorded against several other cities in former years, *e. g.*, New York in 1875, and Brooklyn in 1875 and 1881, and notably Baltimore in 1882.

Table III. records the mortality from diphtheria in St. Louis by years during the last twenty years.

Table IV. shows the number of cases of this disease reported to the Health Department and the number of deaths due to this cause during each month of the year 1886. It is probable that the returns of cases were somewhat less complete during the early months than later when the ordinance requiring the prompt report of cases has been more rigidly enforced.

We hope to give our readers additional records from the Health Office as the result of studies of the diphtheria epidemic, when the data which have been accumulated by the inspections of the sanitary officers shall have been compiled and formulated.

TABLE I—RECORD OF DIPHTHERIA IN EUROPE.

<i>Year.</i>	<i>City and County.</i>	<i>Population.</i>	<i>Deaths.</i>	<i>Rate per 10,000 Living.</i>
1871	London, England.	3,254,260	344	1.1
1881	London, England.	3,816,483	657	1.7
1884	London, England.	4,019,361	973	2.4
1877	Paris, France.	2,039,030	2,364	11.59
1880	Paris, France.	2,189,702	2,153	9.83
1882	Paris, France.	2,270,910	2,390	10.52
1882	Marseilles, France.	360,099	401	11.14
1881	Turin, Italy.	252,832	404	15.98
1882	Palermo, Italy.	247,550	280	11.31
1884	Frankfort on the Main, Germany.	146,600	72	4.9
1881	Munich, Germany.	233,000	394	16.91
1882	Dresden, Germany.	227,250	570	25.08
1884	Leipsic, Germany.	164,636	399	24.24
1882	Berlin, Germany.	1,174,227	2,134	18.17
1883	Berlin, Germany.	1,209,232	2,932	24.25
1884	Berlin, Germany.	1,224,794	2,640	21.55
1882	Breslau, Germany.	282,569	299	10.58
1883	Breslau, Germany.	287,865	323	11.22
1882	Hamburg, Germany.	469,540	390	8.30
1884	Hamburg, Germany.	497,400	463	9.30
1865	Brussels, Belgium.	163,434	206	12.60
1884	Brussels, Belgium.	171,293	108	6.30
1883	St. Petersburg, Russia.	929,525	1,119	12.04
1884	St. Petersburg, Russia.	929,525	749	8.06
1881	Stockholm, Sweden.	167,440	220	13.1
1884	Stockholm, Sweden.	190,115	193	10.2

TABLE NO. I—CONTINUED.

<i>Year.</i>	<i>City and Country.</i>	<i>Population.</i>	<i>Deaths.</i>	<i>Rate per 10,000 Living.</i>
1878	Vienna, Austria.	686,491	990	14.42
1879	Vienna, Austria.	695,877	695	9.99
1884	Vienna, Austria.	743,852	144	1.94
1880	Budapesth, Austria.	352,358	335	9.51
1884	Budapesth, Austria.	406,258	253	6.20

Than Russia, excepting St. Petersburg, no country has suffered worse from diphtheria. I have not sufficient data to make tables, but in the year 1877, 18,698 persons died of diphtheria in Russia. In 1879, in only five provinces in the Southwestern portion of Russia, 5,700 persons died of the disease.

TABLE II—RECORD OF DIPHTHERIA IN THE UNITED STATES.

<i>Year.</i>	<i>City.</i>	<i>Population</i>	<i>Deaths.</i>	<i>Rate per 10,000 Living.</i>
1876	Boston.	352,842	577	16.35
1880	Boston.	362,839	588	16.21
1881	Boston.	397,628	601	15.11
1885	Boston.	427,940	334	7.80
1875	New York.	1,041,866	2,329	22.35
1876	New York.	1,055,535	1,750	16.58
1881	New York.	1,242,533	2,249	18.10
1885	New York.	1,356,956	1,314	9.68
1875	Brooklyn.	482,493	965	20.
1880	Brooklyn.	566,689	1,118	19.73

TABLE NO. II—CONTINUED.

<i>Year.</i>	<i>City.</i>	<i>Population.</i>	<i>Deaths.</i>	<i>Rate per 10,000 Living.</i>
1881	Brooklyn.	583,220	1,169	20.04
1885	Brooklyn.	665,602	510	7.66
1881	Baltimore.	339,809	881	25.93
1882	Baltimore.	347,305	929	26.75
1883	Baltimore.	354,801	792	22.32
1885	Baltimore.	408,520	236	5.78
1882	St. Louis.	380,000	483	12.71
1883	St. Louis.	400,000	552	13.80
1885	St. Louis.	407,000	426	10.65
1886	St. Louis.	400,000	719	17.97
1878	Cincinnati.	247,359	205	8.29
1879	Cincinnati.	251,249	202	8.04
1882	Cincinnati.	264,139	183	6.93
1885	Cincinnati.	325,000	100	3.07
1880	Chicago.	503,298	930	18.48
1881	Chicago.	540,000	609	11.28
1884	Chicago.	630,000	649	10.30
1885	Chicago.	630,000	706	11.20
1859	New Orleans.	166,500	253	15.20
1864	New Orleans.	173,588	337	19.41
1884	New Orleans.	227,173	94	4.14
1885	Philadelphia.	949,432	562	5.92
1885	San Francisco.	234,520	287	12.26

TABLE III—DIPHTHERIA IN ST. LOUIS DURING THE LAST TWENTY YEARS.

<i>Years</i>	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876
<i>Cases</i>	48	35	49	75	68	76	61	56	160	167

<i>Years</i>	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886
<i>Cases</i>	165	156	141	113	157	385	553	425	372	719

TABLE IV—CASES OF DIPHTHERIA AND DEATHS FROM DIPHTHERIA DURING THE CALENDAR YEAR 1886.

	JAN.	FEB.	MAR.	APR.	MAY	JUNE
<i>Total Cases</i>	124	94	82	107	100	123
<i>Total Deaths</i>	45	35	42	24	28	32

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
<i>Total Cases</i>	138	187	292	429	690	460—2,826
<i>Total Deaths</i>	48	57	85	106	123	94— 719

A FEW ANTI-RABIES INOCULATION.—DR. Fernandez, of Barcelona, claims that inoculation of dogs with the virus of the viper will render the animal incapable of contracting rabies. The inoculation with the viper virus causes an illness of four or five days duration, with symptoms of slight fever, prostration, and more or less disposition to sleep.

ANTISEPTIC MIDWIFERY.

A little volume has recently appeared in the "Physicians' Leisure Library Series" from the pen of Dr. H. J. Garrigues which we deem of exceptional interest and value. (Vid. Book Notices on another page.)

In the issue of the *COURIER* for December 1885 a paper by Dr. Wm. Moore gives an account of the system of antiseptic practice adopted in the Maternity Hospital under the direction of Dr. Lusk, but as many of our present readers have not that number at hand and the subject is one of such importance, we are glad to take the opportunity of urging upon them a careful study and testing of the methods advocated by Dr. Garrigues, who introduced this systematic antisepsis in that institution.

The results obtained in Maternity Hospital are an eloquent tribute to the method. In that institution the mortality was reduced from between seven per cent and eight per cent to less than one per cent, while the morbidity in the puerperal state was reduced from 24 per cent to less than half that proportion by the introduction of rigid antiseptic measures.

In the hospital a rigid system of alternation in the use of wards is adopted. As soon as emptied, the wards are fumigated and aired, the floor is scrubbed with soap and water and subsequently washed with a solution of bichloride of mercury (1 to 5,000) and so also every piece of furniture, and fresh bed clothes and new straw are furnished for the bed.

At the beginning of each labor doctors and nurses wash their hands with soap and water, using stiff nail-brushes, and after that in the solution of 1 to 1,000, to which in cold weather a small quantity of hot water is added. The hands are held for a minute or more in the warm solution, kept for that purpose in a basin at the bedside, each time before the genitals are touched.

When the patient is taken in labor, she is given an enema and a bath, and the abdomen, genitals, buttocks and thighs are washed

with a lukewarm solution of bichloride, 1 to 2,000. Two quarts of the same fluid are injected into the vagina by means of a fountain syringe consisting of a glass jar, a rubber tube and a straight glass injection tube. In protracted cases these injections are repeated every three hours.

When the fetus appears at the vulva a piece of lint soaked in the solution (1 to 2,000) is applied and kept there continuously, and after the expulsion of the child the genitals are still kept covered with a similar compress until the after-birth has been expelled, which is done by the Credé method.

If part of the placenta or membranes is retained, the attendant removes them even if, in order to do so, it becomes necessary to introduce the whole hand into the uterus. In such cases an intra-uterine injection is given of one quart to three pints of a solution of bichloride of mercury of a strength of 1 to 4,000 and temperature of 100° to 115°F.

After the removal of the secundines and the intra-uterine injection, if this has been found necessary, the patient is washed with the solution (1 to 2,000) and Dr. Garrigues' antiseptic occlusion dressing is applied over the vulva. This consists of a piece of lint six by eight inches, folded lengthwise, so as to be three inches wide, and which is wrung out of the lukewarm solution of bichloride (1 to 2,000) and carefully applied over the vulva from one genito-femoral sulcus to the other. A piece of oiled muslin, nine by four inches, is washed in the same solution and applied over the lint, the edges being turned forward on the inside of the thighs. Next a large pad of oakum is placed inside of a piece of common muslin eighteen inches square, which is folded diagonally so as to be five inches wide and is fastened to the binder in front and behind.

This dressing is renewed every six hours, at which time the outside of the genitals and the adjoining parts are cleansed by letting a stream of the same lukewarm solution run over them from the glass jar through a simple glass tube. Before changing the dressing

the nurse is required to disinfect her hands thoroughly, and any substance, as lint or cotton, which is brought in contact with the patient is wrung out in the solution.

This dressing is continued as long as the patient is in bed.

The application of this same plan of treatment in private practice has been eminently successful in the hands of those who have used it, and the results amply repay the physician, nurse and patient for the additional trouble involved, while the expense of necessary materials may be reduced, in cases of necessity, to a sum less than the cost of a single extra visit of the attending physician.

FOLLICULAR TONSILLITIS—DIPHTHERIA.

It has been a matter of note by physicians for many years that at times when diphtheria was prevailing in an epidemic form large numbers of people would also suffer from a form of throat trouble in which there would be more or less congestion and redness of the mucous membrane with little deposits at a few or several points on the surface of the tonsil, sometimes also upon the palate and the pharynx. In many cases these punctated deposits remained for only one, two or three days, and then disappeared without at any time blending so as to form a distinct membrane upon the tonsils.

Physicians have generally regarded these cases as being "follicular tonsillitis or amygdalitis," but not diphtheria. Sometimes they have compromised by calling such cases "diphtheritic sore throats," but do not regard them as diphtheria, and do not report them as such in reports of infectious diseases.

In different papers during several years past, Dr. A. Jacobi has strongly urged the etiological identity of these cases with those more pronounced ones which are unquestionably diphtheria. In a paper published in the *Medical Record*, Nov. 27, he again repeats his views upon this subject. Calling attention to the anatomy of the tonsils and the relations which they bear to adjacent parts, he

notes that the lymphatic connections are scanty, even at the outset, and become less with advancing years, especially when the tonsils are the seat of hyperplastic inflammation.

In discussing the diagnosis of affections of the tonsil he notes that catarrhal inflammation of the tonsil, produced by cold, is not unilateral, but is accompanied with universal hyperemia of the pharynx. "Whenever there is an acute attack with unilateral amygdalitis, the latter is the result of either trauma or infection." In the catarrhal amygdalitis the secretion is viscid and cohesive, and resembles the contents of fistulæ originating from previous purulent inflammation of a part of the tonsil, but never forms a structure intimately adhering to and cohering with the subjacent tissue. Occasionally a hard morsel of bread will remove some of the secretion, or a sponge or some absorbent cotton wrapped on a probe will detach these drops or membrane-like points. Moreover, it is easy to introduce a blunt probe into the recess of the lacuna or the fistula. Sometimes, but rarely, there is some glandular swelling near the lower jaw, which depends, however, rather on the general pharyngitis than upon the tonsillitis. This catarrhal affection may run an independent course without any complication, though nasal catarrh is a very common complication, and a throat which is subject to catarrhal inflammation offers less resistance than it would otherwise to epidemic diphtheritic influences.

There may be, however, true diphtheria, according to Dr. Jacobi, without any extensive formation of membrane. Deposits on one or both tonsils, though of small circumference or thickness, are membrane, do not change their location, and cannot be removed with brush or probe without some effort, nor will a probe enter a cavity or fistula through or alongside of them. In shape they may be circular or irregular, whitish or whitish-gray, may be thrown off in four to six days, or grow larger in a day, or may join and form a distinct membrane. The membrane between the points may be pale or congested. Fever and enlargement of the adjacent glands may be present or not. The more strictly the morbid process is

limited to the tonsils the more frequently are fever and glandular affection of the neck absent.

Often, as we have noted above, these cases of "punctated diphtheria," as Dr. Jacobi calls them, are regarded by the physician as simple catarrhal, follicular tonsillitis, and no precautions are taken to prevent the spread of the disease.

Dr. Jacobi has observed the punctated form of the disease more frequently in adults and adolescents than in children; but, he says, "whether membrane or point, the contagiousness of the disease is the very same. A mild variety begets that which is mild or severe, as the severe form may produce its like, or a mild variety." He urges the importance of isolating and treating these mild cases of punctated diphtheria, which are so common in adults, "less, perhaps, for the sake of those who are sick, than of those who are in serious danger of being infected."

In the discussion which followed the reading of Dr. Jacobi's paper before the New York Academy of Medicine, Dr. J. Lewis Smith expressed the opinion that there is no relation at all between the two diseases, except as diphtheria might occur as a secondary disease, as a complication of a pre-existing catarrhal inflammation. He preferred to call the disease a follicular pharyngitis, rather than a tonsillitis or amygdalitis. The simple disease begins abruptly, frequently with as high temperature as diphtheria. It may occur in a number of members of the same family, and is probably due, he thinks, to a micro-organism, though he is not sure that the affection is contagious.

Dr. C. E. Billington spoke quite at length upon the subject. He regards the follicular tonsillitis as a disease *sui generis*, not a mild form of diphtheria, though so like it that it is often not easy to distinguish between them. In the onset they cannot be distinguished. In the second, or exudative stage, the diagnosis is usually rendered easy by the appearance of whitish or yellowish points projecting, or liquid oozing from one or more of the lacunal orifices. In other cases it is easy to distinguish by the soft, pultaceous character of

the deposit lying loosely on the surface, and readily removable with a brush. In some cases it is impossible to distinguish these cases from true diphtheria, though in most of them this may be done by syringing the throat with water, which will wash away much of the deceptive material, exposing its whole mucous membrane to view.

He thinks the two diseases are often confounded and is always suspicious of reports of large numbers of cases of diphtheria in which the disease is mainly limited to the tonsils.

In closing the discussion Dr. Jacobi said that he had especially desired to call attention to the group of cases in which diagnosis is difficult, and agreed with one of the speakers who held that in some cases a differential diagnosis was impossible. He believed that it was better and safer to regard such cases as belonging to the more dangerous variety of the disease, and to adopt such precautions as the more dangerous disease necessitates. In this view, we think, all prudent practitioners will coincide.

SCARLET FEVER.

A number of papers have appeared lately with reference to this disease, to some points of which we think it worth while to call the attention of our readers. As will be noted on another page of this issue, there were during the year 1886, one hundred and forty-nine deaths from scarlet fever in St. Louis.

J. Lewis Smith, in his work on "Diseases of Children," speaking of its contagiousness says: "The area of the contagiousness of scarlet fever is small. It apparently embraces only a few feet. Therefore, close proximity is the necessary condition of its propagation."

Dr. Arthur V. Meigs, in a paper read before the Philadelphia County Society, Nov. 24, (*Med. Rec.*, Dec. 11, 1886), maintains that,

I. Experience shows that scarlet fever is not so actively contagious

as some of the other exanthemata, and that it is largely because it is so dangerous a complaint and often so terribly sudden in its effects that it is so considered;

II. That it is comparatively slightly contagious during the first day or two after its outbreak, and that, therefore, it is very important to take all reasonable precautions, even if the disease is not very early diagnosticated; in this respect differing radically from measles, whooping cough, etc.;

III. That the disease is not nearly so much carried from place to place by persons themselves unaffected transporting it upon their persons and in their clothes as is commonly believed.

In a paper read before the Section of Public Medicine of the British Medical Association at Brighton, (*Brit. Med. Jour.*, Oct. 30, 1886), John Tatham in discussing, "The Best Means for its Prevention in Large Urban Populations" lays the greatest stress, as does Dr. Meigs in the paper above referred to, upon the isolation of scarlatina cases and the removal to suitable hospitals of such patients as cannot be so efficiently isolated at home.

The borough of Salford, of which Dr. Tatham is medical officer, formerly had the reputation of being one of the most prolific scarlet fever beds in England. During the twenty years 1856-75 in which the only available means for the limitation of the ravages of this disease were the disinfection of houses after sickness and the abatement of public nuisances, the annual death rate from scarlet fever averaged 135 per 100,000 population. In the following seven years, a fever-hospital having been erected, the death rate fell to 98 per 100,000 population, and in the last three years, since the passage of the Compulsory Notification Act, the rate has fallen to 50 per 100,000.

Dr. Tatham says that "in every reported seizure special care is taken, in case isolation is possible at home, that the most complete segregation practicable is secured, and in case home isolation is impossible, that removal to hospital (with consent) shall be effected with all necessary despatch, and that in event of recovery or of

death of the patient at home, or, in case of removal to hospital, a very complete purification of infected premises and bedding shall be carried out under our own superintendence. * * * On entering an infected house, which is done as soon as may be after receipt of certificate, the inspector makes a careful survey of the house and premises, with a view of discovering whether the disease present has been caused by unsanitary condition of the property, whether infection has been imported from elsewhere, and whether the house contains other children who are in actual attendance at school; for, in this case, it is our invariable practice promptly to acquaint the school managers with the fact."

In the discussion which followed the reading of this paper it seemed to be the general opinion that the effect of the Compulsory Notification Act had been of great advantage in securing a diminution in the prevalence of scarlet fever.

As further bearing upon the value of isolation as a means of diminishing the prevalence of this disease we note a paper read at the same meeting by Dr. Wm. Squire, of London, in which he attributes the greatly diminished prevalence of scarlet fever in that metropolis during the preceding year very largely to the improved facilities afforded for the isolation of patients from this disease.

With regard to the "Duration of Infectiousness in Scarlet Fever," a paper was read at the same meeting of the British Medical Association by Dr. H. Ashby, who is Physician to the Manchester General Hospital for Children, from which some two hundred convalescent scarlet fever patients are discharged annually.

The practice in that hospital is to retain scarlet fever patients for six weeks. They keep them in bed till the twenty-first day, during which time they are sponged with some disinfectant solution and anointed with an ointment containing fat, vaseline and carbolic acid. After that time they are allowed to be up and are bathed daily, including the head, till the forty-second day when they are discharged, if free from desquamation. No clothing used in the fever ward is allowed to go home, and all blankets, etc., be

longing to friends are carefully stoved. If desquamation is not complete at the forty-second day, the patients are retained until the skin is clear, though it is not considered necessary to wait until the last scrap of thick skin about the heel has been shed.

Dr. Ashby concludes, as the result of much study and observation on the subject, that

1. If desquamation is complete, convalescent scarlet fever patients may be discharged at the end of the sixth week, though, in order to secure absolute immunity from infection, it is wiser to delay to the end of the eighth.

2. Cases complicated with nephritis, empyema, otitis, or glandular abscesses, should be detained until the cure is complete.

3. That while it is important that desquamation should be as complete as possible, the detention of patients beyond the eighth week, in order that the epidermis should be removed upon the soles of the feet, etc., is unnecessary.

THE LOMB PRIZES.—Our readers will remember that in the report of the meeting of the American Public Health Association it was stated that the committee on the Lomb Prize Essays, made no award, on the ground that the essays presented were of such inferior quality that they did not feel warranted in awarding the prizes to either of them.

With regard to that we quote the following note addressed to the "Editor of the *Sanitarian*."

"DEAR SIR:—I think you should, in your valuable monthly, draw attention to the unfairness to many of the Lomb Prize affair, in connection with the American Public Health Association. In the first place, the nature of the essays *expected* was not made at all plain, the length required, etc., whether for public reading or other purpose. I saw (read) *two* of the essays, and having given much attention to the subject, too, I considered them very good indeed, well written and well worthy a prize—even as large as offered—involving much time and study.

A GRADUATE IN HONORS."

BOOK REVIEWS AND NOTICES.

OUTLINES OF THE PATHOLOGY AND TREATMENT OF SYPHILIS AND ALLIED VENEREAL DISEASES. BY HERMAN VON ZEISSL, M. D. Revised by MAXIMILIAN VON ZEISSL, M. D. Translated by H. RAPHAEL, M. D. New York, D. Appleton & Co., 1886. 8vo.; pp. 402; cloth; \$4.00. (St. Louis: J. L. Boland: J. H. Chambers & Co.)

The translation of Prof. von Zeissl's work is a most valuable contribution to our medical literature, placing within the reach of those who do not read German the teaching of one who for years has had a prominent place as an investigator and teacher in Vienna, that most active centre of medical observation and study. The translator has been most happy in his rendering of the original, and has been most successful in avoiding the tendency to obscurity which is so often found in translations.

An introductory chapter on "The Venereal Contagions," gives a brief résumé of the views held by various authors, as Hunter, Ricord, Clerc and others. Then follows a section of about one hundred pages devoted to "Gonorrhea, Venereal Catarrh," one of forty pages to "Soft Chancre, or Chancroid," and the remainder of the volume, about two-thirds of the whole, to "Syphilis."

Our author defines gonorrhea as a catarrh of the urethral mucous membrane, and designates three groups, viz., serous, epithelial or mucous, and purulent gonorrheas, though admitting that the distinction cannot always be maintained. The serous and mucous gonorrheas he regards as the precursors of the purulent gonorrhea, and believes that "the disease may be arrested at either of these stages by any inhibiting influence." He regards the hypothesis, that gonorrhea is due to Neisser's gonococcus, as not yet demonstrated, though the translator does accept this theory.

The treatment as laid down is on the whole very satisfactory. The preference is given to local treatment rather than to internal medication.

Prof. Zeissl is an uncompromising dualist, regarding the chancroid and chancre as essentially different, never interchangeable

and each one due to a specific virus. The treatment advised for chancroids is efficient and excellent, depending for its success upon its simplicity, avoiding all kinds of irritation and securing cleanliness and protection.

The section on syphilis proper is the most extensive, and gives the name to the volume.

The various lesions of syphilis are described fully though briefly. The professor does not recognize the claims of any observers, as yet, to the discovery of a micro-organism which can be considered the specific cause of this disease. He holds the view "that the syphilitic virus is conveyed to the blood by the lymphatic vessels."

In regard to excision of chancres, we note the following: "But we have convinced ourselves by a great many experiments that extirpation of the indurated primary lesion, however early performed after infection, does not prevent the outbreak of secondary phenomena." The treatment which is here advocated is opposed to that generally taught and recommended in this country. If a patient has a chancre, the treatment is simply local. When the syphilitic skin eruptions appear, these is still no internal medication unless, after eight weeks have elapsed, the lesions still persist unimproved or not entirely disappeared, when iodine preparations are administered. If, after another eight weeks, the symptoms are still refractory, a mercurial treatment is then adopted. In spite of the value placed upon this plan of treatment by the eminent German professor, we do not believe that he will have a numerous following in this country.

We commend this volume to the consideration of our readers as embodying the best presentation of the theory and practice of the Vienna School of Medicine. Messrs. Appleton & Co. have given the work an excellent setting in clear large type and with good paper and binding.

ANALYSIS OF THE URINE, with special reference to the Diseases of the Genito-Urinary Organs. BY K. B. HOFMANN and R. ULTMANN. Translated by T. B. BRUNE, A. M., M. D. and H. H. CURTIS, Ph. B., M. D. Second Edition, revised and enlarged. New York, D. Appleton & Co., 1886. 8vo.; pp. 310; cloth. (St. Louis: J. L. Boland; J. H. Chambers & Co.)

The names of these authors are well known to the profession as authorities on the subject of urinalysis, and the announcement of a

second edition of their work on this subject, will be received with pleasure.

The directions for qualitative examination are carefully worked out, and the most recent tests are added in notes by the translators.

Reliable methods of quantitative analysis of the more important constituents are given in clear and intelligible form, while due attention is given to the examination of urinary sediments.

One of the most valuable features of the book is the study of urinary analysis as related to diagnosis, the causes of variations in the elimination of urea, different causes of albuminuria, etc.

The clinical character of the work specially commends it to the consideration of the physician.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By WILLIAM A. HAMMOND, M. D., etc. With One Hundred and Twelve Illustrations. Eighth Edition, with Corrections and Additions. *New York: D. Appleton & Co., 1886, 8vo., pp. 945; cloth; \$5.00.* (St. Louis: J. L. Boland; J. H. Chambers.)

This edition does not materially differ from the preceding except by the addition of a section on "Certain Obscure Diseases of the Nervous System," including chapters on tetaný, Thompson's disease, and miryachit and its kindred affections.

In spite of the claim by the author that he has "taken the occasion of an eighth edition of this work being called for to revise it thoroughly," it remains true, as noted by the *Boston Med. and Surg. Jour.*, Oct. 21, '86, "that there is no discussion of tendon reflex or reaction of degeneration, no chapter on multiple neuritis, and no description of the different forms of peripheral paralysis; and furthermore, that under aphasia no mention is made of Kussmaul's investigations or of word-deafness; under amyotrophic lateral sclerosis no mention is made of exaggeration of the reflexes; under infantile paralysis no mention is made of qualitative changes in electrical excitability; and under locomotor ataxia no mention is made of reflex immobility of the pupils to light."

RHEUMATISM: Its Nature, its Pathology and its Successful Treatment. By T. J. MACLAGAN, M. D., *New York: Wm. Wood & Co., 1886. 8vo., pp. 277; cloth (Wood's Library).*

This September volume of "Wood's Library of Standard Medical Authors," is a reprint of an English work, and is a very judicious selection for reproduction in this form.

Dr. MacLagan having had much to do with the popularization in

the medical profession of the use of salicin and the salicyl compounds in the treatment of rheumatism, it is eminently fitting that the result of his studies of this disease and its treatment should be given to the profession in a permanent form, and the publishers have done well to include the volume in their library.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.—*Eighth Annual Report of the State Board of Health of Illinois, with appendix.* Rokker (State Printer and Binder), Springfield Ill. 1886. 8vo.; pp. 556; paper.—*The Physiological, Pathological and Therapeutic Effects of Compressed Air.* By Andrew H. Smith, M. D., Detroit, Geo. S. Davis, 1886. 16mo.; pp. 112; paper. (Leisure Library.)—*Antiseptic Midwifery.* H. J. Garrigues, M. D., Detroit, Geo. S. Davis, 1886. 16mo.; pp. 128; paper. (Leisure Library).—*Transactions American Surgical Association. Vol. IV.* Edited by J. Ewing Mears, M. D., Philadelphia; P. Blakiston, Son & Co., 1886. 8vo., pp. 339, cloth.—*Eighth Annual Report Illinois State Board of Health.* Springfield, H. W. Rokker, 1886. 8vo.; pp. 556, cloth.—*The Laws of Generation, Sexuality and Conception.* By H. M. Gourrier, M. D. Translated and Edited by Franklin Duane Pierce, M. D., Hygeia Publishing Co., 1886, Union Springs, N. Y. 12mo., pp. 94, cloth, \$1.00.—*Functions of the Brain.* By David Ferrier, M. D., LL. D., F. R. S. Second Edition, Re-written and Enlarged, With numerous illustrations. New York. G. P. Putnam's Sons, 1886, 8vo.; pp. 498, cloth, \$4.00. (J. L. Boland.)—*Granular Lids and Contagious Ophthalmia.* By W. F. Mittendorf, M. D., Detroit, Geo. S. Davis. 16mo., pp. 110, paper. (Leisure Library.)—*A Laboratory Guide in Urinalysis and Toxicology.* By R. A. Witthaus, A. M., M. D., New York, Wm. Wood & Co., 1886, pp. 73, cloth.—*How we Treat Wounds To-day* (2nd edition). Robert T. Morris, M. D., New York and London, G. P. Putnam's Sons, 1886, 16mo., pp. 164, cloth (2nd edition). (J. L. Boland, St. Louis.)—*Waring's Practical Therapeutics.* By Edward John Waring, C. L. E., M. D., Edited by Dudley W. Buxton, M. D., B. S., fourth edition, Philadelphia, P. Blakiston, Son & Co., 1886, 8vo., pp. 666, cloth. (John L. Boland, St. Louis.)—*The Mechanism of Indirect Fractures of the Skull.* By Charles W. Dulles, M. D., etc. Philadelphia, P. Blakiston, Son & Co., 1886, 8vo., pp. 25, paper, illustrated.—*Pathology and Treatment of Syphilis, etc.* By H. von Zeissl, M. D., Translated with Notes by H. Raphael, M. D. New York: D. Appleton & Co., 1886, 8vo., pp. 402, cloth, \$4.00. (St. Louis: J. L. Boland; Jas. H. Chambers & Co.)—*Diseases of the Nerves, Muscles and Skin.* By H. Eichhorst, New

York, Wm. Wood & Co., 8vo., pp. 390, cloth. (Wood's Library.)—Principles and Practice of Medicine. By Austin Flint, M. D., etc., 8vo., pp. 1160, cloth, \$5.50; sheep, \$6.00. (St. Louis, Jno. Linahan; Jas. H. Chambers and Co.)—A Manual of Obstetrics. By A. F. A. King, A. M., M. D., etc. With one hundred and two Illustrations. Third edition, Philadelphia: Lea Brothers & Co., 1886. (Jno. Linahan, Jas. H. Chambers.)

PAMPHLETS AND REPRINTS.—The curette as a Diagnostic and Therapeutic Agent in Gynecology and Obstetrics. By R. Bernard Browne, M. D. (Trans. Med. and Chir. Faculty of Maryland.)—Mecroneuropathia. By C. H. Hughes, M. D. (Alienist and Neurologist.)—Address in State Medicine. By John H. Rauch, M. D. (Jour. Am. Med. Ass'n.)—A Clinical Report of cases treated by Pneumatic Differentiation. By Herbert F. Williams, M. D. (N. Y. Med. Jour.)—Ten Months Experience with Pneumatic Differentiation. By Vincent T. Bowditch, M. D. (N. Y. Med. Jour.)—Courier-Review Call Book.—Transactions of the American Dermatological Association at the Tenth Annual meeting. Aug. 25, 26, 27, 1887.—Antisepsis in Ovariectomy and Battey's Operation, By Robert Battey, M. D. (Trans. Med. Ass'n, Georgia, 1886.)—Certain Hereditary and Physical Phenomena in Inebriety. By T. D. Crothers, M. D. (Alienist and Neurologist.)—Conference of the American Shipping and Industrial League, with Address on Relation of Quarantine to Shipping interests. By Joseph Holt, M. D. Pres. State Board of Health of Louisiana.—Inter-State Notification; Its Principles as Demonstrated in the History of Yellow Fever at Biloxi, Miss, 1886.—Annual Announcement of the Louisville College of Dentistry, Jan.-June, 1887.—Announcement of the Regular Session of 1887 of the Hospital College of Medicine. Medical Department of Central University, Jan.-June, 1887.—Method in Medical Study. By Charles H. May, M. D. (N. Y. Med. Jour.)—The Mechanism of Indirect Fracture of the Skull. By Charles W. Dalles, M. D.—Medical Library, Sept., 1886.—Transactions of the Medical Association of the State of Missouri. Seventy-ninth Annual Session held at St. Louis, May 3, 1886.—The Brown Magnetic-Telephone Company of Missouri.—Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-eighth Annual Session held at Baltimore, Md., Apr., '86.—Exploration, Excavation and Illumination of the Interior of Bones in any Part of the Body. By Milton Josiah Roberts, M. D.—Venous Blood Tumors of the Cranium. By Wm. M. Mastin, M. D. Jour. of Am. Med. Ass'n.)—The Amblyopia of Squinting Eyes. By Samuel Theobald, M. D. (Med. News.)—Medical Education and Medical Colleges in the United States and Canada. Published by the Illinois State Board of Health.—The Surgery of the Pancreas. By N. Senn, M. D. [Trans. Am. Surg. Ass'n.]—Report on Rhinology. By J. Addison Stucky, M. D. [Cin. Med. and Dent. Jour.]—Annual Report of the Commissioner of Pensions to the Secretary of the Interior, for Year ending June, 1886.—A Prior Discovery. [Chic. Med. Current].

TRANSLATION.

SAMARITAN LETTERS.

BY DR. FRIEDRICH ESMARCH, *Professor of Surgery in Kiel, President of the German Samaritan Union.*

Translated by MRS. EMILY A. NELSON, ST. LOUIS.

THIRD LETTER.

Dear Friend.—It has heartily rejoiced me to see from your last letter that you have been converted to my views about the Samaritan instruction, and so I entertain the hope that also the rest of the profession will in time be drawn to a more favorable opinion of my endeavors.

I regret to be obliged to say—but it is the truth,—that the entire unjustifiable opposition against the Samaritan instruction has done great harm to the medical profession in the eyes of the laity.

I myself have been more than once obliged to defend my professional colleagues against reproaches, which in my presence have been heaped by highly educated persons of elevated social position upon the attitude of the medical profession in this cause, and have always taken the pains to excuse them on the ground that they are unfamiliar with the points in question, and that only a kind of panic caused the central committee of the Berlin Medical District Union to condemn our efforts in such a sharp manner.

I do not know whether the central committee really voiced the views of all the Berlin physicians, as it had the appearance of doing; but I do know that among the members of the committee which on June 2, 1881, passed the decree against the Samaritan Union there was not one who had taken the trouble to glance over my guide for Samaritan schools.

They had all limited themselves to reading the pamphlet of Dr. Schleich, (a warning word on the Samaritan question) which at the

time aroused much discussion, yet which (as his own words in form us) was written before even the author himself knew the points involved in the question.

There also in the same session, a somewhat near-sighted member announced that he had already seen in a suburb of Berlin a placard the sign of the red cross, on which a quack represented himself as a "trained Samaritan," so the decision was unanimously arrived at to issue a warning against the Samaritan schools, and later it was decided to announce to Dr. Schleich the acknowledgment of the committee for his valiant onset in the Samaritan question.

Although it was subsequently proved that this attack had been only a challenge of the Berlin Branch Unions for entrance into the Samaritan Union, the fear of the misuse of the Samaritan name for knavish designs was thus awakened: it haunted many heads and has in other cities been the occasion of the medical societies declaring themselves against the Samaritan instruction, even going so far as to forbid their members (under the penalty of expulsion) from disseminating such intelligence. It is, of course, very possible that here and there, occasionally a quack or charlatan will misappropriate the name "Samaritan" in order to deceive the unlettered masses, but, as far as I know, the fears of the Berlin medical men up to this time have had nothing to confirm them.

On the contrary, my publicly spoken hope in Berlin in my lectures held at the Hygienic Exposition, has been already fulfilled, that the Samaritan instruction, although it is obliged to combat ignorance and superstition, will contribute much to accomplish the destruction of charlatanry.

Very important evidence in that direction is the testimony of our old associate, Dr. Kaestner in Bordesohn who, with exceptional energy and endurance, has since 1882 given lessons in the Samaritan instruction throughout the entire circle of his widely extended country practice. He reported to the directors of the German Samaritan Union, that in the districts where he had held the lectures, the formerly busily employed quacks and the unsuitable remedies in illnesses and sudden accidents had noticeably decreased, and that the residents there now invariably send much earlier for a physician than was once the case.

Moreover, now a great number of their most skilful physicians have befriended the Samaritan schools, so that I cannot forbear a feeling of shame when I contrast the more than cool reception which

my endeavors have received from so many German medical men, with the enthusiasm which the cause has aroused in other lands among their physicians.

At the last year's international conference of the members of the Red Cross in Geneva, the delegate from the English Knights of the Order of Malta, Mr. John Furley, after he had heard my speech about Samaritan schools, remarked as follows: "You have heard that in Germany opposition has been made to the Samaritan efforts, especially on the part of the profession. I am very happy to be able to say this has never been the case in England. There has never been one voice raised against us by English physicians. On the contrary, our warmest and truest friends are among them. They have always looked upon us as their auxiliary troops, never as their rivals.

Our ambulance union certainly could not exist without the invaluable support of our medical men. They have always been ready to help us, and have prided themselves on being the first to acquaint others of our successes."

And if you will glance through the second and third yearly report of the German Samaritan Union, you will there find that also in Sweden and Norway, as well as in Denmark, Iceland and Finland, the Samaritan schools found speedy entrance, and that everywhere the most distinguished physicians have placed themselves at the head of the movement.

This movement makes a favorable impression, in part because there so many places are far removed from surgical aid, and, in part because the severe labor in forest and mountain is attended by such serious accidents, having as a sequel either death or severe mutilation; and beside, because the surgeon could only reach the place after many hours, or even days, and because transport to him is attended with the most appalling difficulties.

When any one up there in the mountains suffers a fracture of the leg, what tortures will he endure on the rough mountain roads, if he has not had splints judiciously employed, if he must be transported far in a rude cart.

That a simple bone-fracture, which is not splinted, may become immeasurably aggravated through unskilful transport, is certainly easy to make plain to the laity. The fact that, even in London, such numerous simple fractures of the leg became complicated ones through the transport by the means of little cabs to the hospitals,

was exactly what influenced the English physicians and Knights of Malta to organize their ambulance association, and through all England there is only one voice about it, that through the numerous helpers in time of need, now actually in existence, (up to the present time more than 80,000 tested Samaritans) inestimable injuries are averted. So also said Mr. Furley in his before mentioned address: "Since we number more than 1000 policemen in London alone as our best Samaritans, the former errors, so frequent in the care of sudden accidents, have become extraordinarily rare.

In a second pamphlet, (an open letter to Prof. Esmarch, M. D., at Kiel, 1882) Dr. Schleich has now made the attempt to show that in Germany the Samaritan aid is entirely unnecessary.

By the aid of the accident statistics of the city of Berlin, he estimates (and with incorrectly applied statistics, as is well known, anything may be proved) that the foundation from which I have proceeded (the frequency of sudden accidents) is completely without hold, and no more than a high sounding phrase, and he expresses the hope that "the entire spook of the Samaritan power will dwindle out of existence of a vertigo, from want of material, opportunity and natural nourishment."

But possibly this fellow practitioner may lend himself to a better understanding, when he hears that, according to the latest report issued by the royal bureau of statistics in 1882 in the kingdom of Prussia, there is a total of 16,132 cases of severe accident presented. Of these unfortunates 8,180 died; inside the first twenty-four hours, 7,448, later, 737.

Of the survivors, there remained incapable of work for from one to six months, 7,050; from six to twelve months, 238; permanently incapable, 660.

In how many cases death occurred because medical aid was not at once at hand, is unfortunately not given.

Not less striking is the publication of the Royal Prussian War Ministry Jan. 19, 1885, in which it is stated that in the eight years of peace from 1874 to 1882, in the army alone, 316,526 cases of mechanical injuries (contusions, lacerations, dislocations, fractures, shot and sword wounds) have been handled by the surgeons, (averaging nearly 40,000 yearly).

The report says further: "Since now a considerable number of injuries have occurred in the performance of duty, (gymnastics, bayonet drill, field service, shooting, swimming, riding, labor and

stable service) in which prompt aid from the official bureau cannot be counted upon, so the first assistance is usually rendered by superiors and comrades; but that this aid should always be suitable is not to be expected, as long as a corresponding general education in the army is lacking.

On this ground, the Royal War Ministry ordered that not only the officers, but also the men of the line throughout the army, should receive instruction in the first aid to be rendered in cases of accident, certainly a great triumph for our Samaritan efforts.

Also that in the civil population through city and country, frequent misfortunes occur in which medical aid is not at hand, needs no further evidence.

That even in the great city, Berlin, in which are more than 1,000 physicians, the help of Samaritans may be extremely useful, the following cases will testify. During a great conflagration at night in a distant quarter of Berlin, a fireman was precipitated from a ladder with such force that he broke both bones of the leg, and the sharp points pierced through the skin.

Surgical aid was far distant, but, of the men on the force a number had received the Samaritan instruction. They made splints out of broken window blinds, and fastened the same very skilfully with triangular cloths which each had in his pocket. Then out of a chamber door a litter was made; upon this the injured man was carefully laid, and, in the practised mountain stride, carried to the far-distant hospital. The man suffered during the transportation no pain worthy of mention, and the hospital staff emphatically declared that the improvised bandage had been applied to their perfect satisfaction.

The sad consequences, however, of the want of intelligent help, are shown in the following case, about which there was a great deal of comment during the last surgical congress in April of this year.

A lieutenant, the son of an army surgeon, was driving back from a banquet late at night, and had suffered a serious fracture of the leg on springing from the conveyance. The accident occurred in a suburb, with no physician living in the vicinity. The comrades accompanying him did not know how to aid him. Had they received Samaritan instruction, they would have known how to construct from their swords, sashes, scarfs and handkerchiefs the necessary splint and bandages, and have placed the injured man recumbent in a suitable position in the street, until one of them could

have obtained from the nearest police bureau a litter or an ambulance. Instead of this, the nearest cab was fetched, and the unfortunate man was crowded into the narrow space and driven to his own dwelling. Here, then the necessary bandage was applied, and the injured man was brought to the Garrison Hospital, where he arrived completely exhausted and unconscious, and died on the third day. Without doubt it was through the conveyance in the narrow cab, and without the supporting splints and bandage, that the injury was intensified.

As soon as the order of the Minister of War for Samaritan instruction is carried out, such an occurrence can scarcely ever again be possible.

And for our cause such an edict as this is in the highest degree satisfactory, because in these indirect ways the knowledge of the proper course in such circumstances becomes thoroughly disseminated among the whole people.

And so I hope the time is not far distant when my strong desire that the Samaritan instruction may constitute a part of the school curriculum, may be realized. Then will the German Samaritan Union have fulfilled its purpose, and at the same time the ill-will of the German practitioners have been overcome. In any case, however, there will soon be left no one more who dares maintain that "the Samaritan effort, instead of promoting public good, must prove to be a serious injury."

ARTIFICIAL LIMBS AND TRUSSES.—According to the report of the Surgeon-General of the Army there were furnished during the year trusses and artificial limbs as follows:

In kind:

Trusses	-	-	-	-	-	780
Artificial legs	-	-	-	-	-	598
Artificial foot	-	-	-	-	-	1
Apparatus for legs	-	-	-	-	-	2
Arms	-	-	-	-	-	22

By commutation:

Artificial legs	-	-	-	-	-	2,652
Artificial feet	-	-	-	-	-	59
Artificial arms	-	-	-	-	-	3,040
Artificial hands	-	-	-	-	-	10
Apparatus for arms	-	-	-	-	-	924
Apparatus for legs	-	-	-	-	-	945

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, Dec. 16, 1886, President W. Coles in the chair.

FIBROID TUMORS—FORCEPS.

Dr. Boislinskiere.—I wish to present to the society some uterine tumors which I extracted with an instrument which I have devised for the delivery of fibroids. When I devised the instrument, about ten years ago, I hoped too much for it; its possibilities are limited. You know very well that fibrous tumors are not called fibroid tumors until they are pediculated. The interstitial tumors, after remaining so for some time become submucous, and in the process of their descent from the walls of the uterus into the cavity they become more or less pediculated. After they have become pediculated, they are entitled to the name of fibro-myoma or polypi of the uterus; they are fibrous tumors at first, and they afterwards become fibroids or polypi. It is only after these tumors become pediculated that they can be reached by surgical procedure. You know how difficult and dangerous it is to remove them before they descend into the cavity of the uterus. When they have once descended into the uterus and present in the upper part of the vagina, then they can be easily reached; therefore the great desideratum in a case of a fibrous tumor is to make a fibroid out of it by producing a pedicle. Sometimes we can do this by medical means, such as a prolonged use of ergot. This has been successful in many cases, and is gaining ground with the profession as a successful means of bringing the tumor further down and pediculating it. These tumors may also be pediculated when they can be reached by traction, if this can be accomplished without endangering their integrity. We can never tell, when a tumor presents in the upper part of the vagina, whether it is pediculated or not. Therefore we will not always succeed with this forceps in extracting it, in order

to avoid resorting to enucleation which, if possible, is to be avoided. I think that Emmet denies the existence of a capsule proper, and I always thought myself without being so well informed as such high authority, that it was doubtful. He says the capsule is simply the lining mucous membrane of the uterus driven before it by the tumor. Enucleation is to be avoided, as I said, because there is danger of septicemia even when the tumor has been removed entirely; enucleation is always a dangerous operation. When the tumor can be pediculated, our endeavor should be to extract it without enucleation. In order to obtain this result I have devised this forceps, which is simply a diminutive Hodge's forceps with these projecting teeth, which serve to hold the tumor firmly. I have here four or five of these fibroids which I have extracted by means of this instrument. The difficulty which I encountered in devising the instrument, was to have these projections come out just far enough and not have them too sharp, so that in extracting the tumor we will not have a rupture of the so-called capsule of the tumor. This forceps is introduced as the ordinary Hodge forceps, and the tumor is extracted in the same way as you would deliver a child's head. This large tumor, which I present, was extracted from a patient 40 years old, and the perineum was very resistant, so that it was difficult to avoid rupturing it. The operation of episiotomy, even, might become necessary in delivering large fibroids, on account of the rigidity of the perineum in nulliparæ, especially old maids.

The tumor when delivered was five inches in diameter and fifteen inches in circumference, and rather hard.

As I have stated, the danger in this case was of rupturing the perineum. I extracted it by traction in the axes of the pelvis, lifting it up, and finally succeeded in delivering it without rupturing the perineum. The delivery of these tumors takes a little time in order to produce a gradual yielding of the perineum. It was attached to the side of the uterus, and it presents a rather broad pedicle, of nearly an inch in diameter. The result of this mode of delivery will be the inversion of the uterus, but we must not be alarmed at this. After the tumor is brought down the pedicle is severed by the chain of the wire *écraseur*, and the uterus is then very easily replaced. There was some little septic fever for a few days before the patient recovered, but she did very well. This is the largest tumor. I have four or five more of these tumors of

smaller size, and which were pure cases of fibroids, and delivered by the same method. This forceps will succeed in delivering these tumors if the pedicle is not too broad, and in cases where it is not possible to succeed by the use of ergot in pediculating them. I was anxious that Dr. Prewitt and Dr. Moses should see the tumors which I present to-night because they, on two occasions, have witnessed my failures with this instrument. I was too full of hope, and expected the instrument to accomplish a great many things which cannot be accomplished with it. In all cases of fibroid tumors we should attempt their removal by the use of this forceps before resorting to enucleation, and if you do not succeed, then it is time enough to enucleate. I think it is, by the by, a fact that women who have conceived have fewer fibroids than virgins or those who have never conceived.

When a fibroid presents at the lower part of the uterus no one can tell whether it is a fibroid or fibrous tumor: therefore before attempting enucleation I think it is well to make use of this instrument, and make at intervals several attempts to produce a pedicle by traction; and if unsuccessful, on account of the tumor having a large sessile base, then enucleate. I have on hand a lady who had a very large fibrous tumor. When I saw her a few weeks ago the tumor was about an inch above the umbilicus; she had been suffering with it for a year or two, and had been troubled with frequent hemorrhages; she had lost a good deal of blood and looked anemic. I recommended the use of ergot because the uterus was not dilated at all, and I could not think of introducing this instrument. The ergot was sufficient to set up uterine contraction, and lately it caused the spontaneous delivery of large pieces of the tumor, which I have had examined by Dr. Luedeking, who ascertained that it was a fibro-myoma, and not a sarcoma, as I feared at first. She passed a piece which perhaps weighed a pound. This is a curious instance of self-enucleation. When I first began giving ergot the tumor was about eight or nine inches above the pubes, with very smooth outlines. After this process of self enucleation had begun she continued passing smaller pieces of the tumor for four or five days. I then gave her larger doses of ergot, as she was very anxious to avoid an operation, but the ergot seemed to have no more effect. Then I began the process of dilatation of the neck of the womb with moderate sized tupelo tents, but the result was not satisfactory. The largest carbolized sponge tents, used for sever

days, produced a most marked dilatation and a rapid shrinkage of the remnant of the tumor which in a few days had entirely disappeared. Sponge tents certainly dilate better than tupelo or laminaria tents. I introduced tents about three inches long and half an inch across into the cavity of the uterus, removing them once a day, and the cervix rapidly became very much dilated; there was a kind of oozing going on all the time after, coincident with the disintegration of the tumor.

Very recently I examined her again and found no tumor, the uterus about two inches above the pubes, and, instead of being eight inches in depth, measured now by the sound only three inches. I report this case because it seemed to me that it was an unusual process in getting rid of these tumors, the uterus expelling large flat and thick pieces of the tumor with hardly any hemorrhage. It is probable that the remnant of the tumor disappeared also from absorption due to the pressure of the sponge tents, an event which, I believe, Dr. Sims stated, has taken place under his observation. He quotes a case of a woman with a fibroid in the anterior wall of the uterus about the cervix, in which, after using a sponge tent, by the process of dilatation and pressure, the tumor was caused to disappear, so that when he subsequently examined the patient the tumor was no longer to be found. The same result has been obtained in the case I report. The tumor by sponge tenting has been compressed and absorbed so that its size decreased very rapidly, and it finally disappeared. This process of disintegration or self enucleation is a peculiar one. It strikes me as very interesting, as it is so uncommon. I would like to know the experience of the gentlemen here, whether they have seen this method of getting rid of a tumor.

This is a case where the above described forceps could not have been used, the base of this tumor being too sessile. This forceps is applicable only to fibroids with narrow pedicles, or when a pedicle has been made by repeated tractions with this forceps.

Dr. Maughs.—I have seen several cases where tumors have been self-enucleated. Dr. Pallen reported a case a number of years ago which he had cured with ergot.

Dr. Engelmann.—I have only seen one such case; this was peculiar, and, as in this tumor of Dr. Boisliniere's, the disintegrated part came away in pieces. I have heard of entire fibroids being expelled, and I presume we have all seen them, but that a tumor

should be expelled in pieces by a breaking down of the tumor is something which is not common. I remember one case which surprised me a good deal, as it was rather a remarkable one, in which a Philadelphia surgeon came here to operate, but removed only a little slip of mucous membrane remaining. The tumor was similar in size to the one which Dr. Boisliniere speaks of as filling up the abdomen. It was a sarcoma, but in that case the pieces which were expelled were very much larger than a goose egg. I was hastily called to see the patient who was in great agony during the night, and removed the first piece which had been forced down toward the os. After I removed this, it was followed by another, and, perhaps a week later, one was passed spontaneously. I think that four pieces were passed, and each was perhaps as large as one of the tumors here presented; they were oval, well rounded, from the size of a goose egg to that of a sweetbread, and the size of the tumor was so much diminished that a deep depression was felt in its right upper portion. Such spontaneous diminution was, of course, remarkable, but what puzzled me most was this peculiar breaking off of the rounded, well-defined pieces that had evidently separated themselves from the lobated mass, and were not broken down or disintegrated, but little offensive.

Dr. Coles.—They looked like pieces of sweetbread.

Dr. Engelmann.—Exactly. At that time, however, symptoms of sepsis developed, and continued persistently. It was impossible in the condition of the patient to effect anything; the location of the tumor in the uterine wall was such that it did not admit of any operation. It was evidently a solid mass in the muscular wall, of great size, the system debilitated from long suffering which was terminated by death from septicemia. That was what I should take to be the danger in Dr. Boisliniere's patient. The above was the only case of the kind that I have ever seen, and she had been ill a long time, and it was not possible to operate so as to benefit her.

Dr. G. A. Moses.—I should suspect that in the cases that have been described both by Dr. Boisliniere and Dr. Engelmann it would be more probable that there were several tumors than that there should be any single tumor separated in this way; that is, that there should be a multiple tumor which by division would cause a part to come away. This seems to me more probable than that that there was a process of necrosis. In those cases we would fear septicemia. I should think they were probably multiple fibroids,

which had been compressed by the uterine action and by the neighboring tumors until they finally became separated and extruded. I cannot conceive of any form of tumor which would be separated in the way mentioned, without some appearance of necrotic change. I have seen one case in which a mass such as has been described was passed off, but it was a single tumor, and not a very large one. This is the only case of the sort that I have ever seen, and that was following a case of confinement, when all the tissues were very soft and yielding, and the action of the uterus was very decided, instituted by labor. I can hardly conceive of the passage of a firm tumor described by both of the gentlemen, unless they were each of them individual tumors, probably crowded together, and really enveloped in a single layer of uterine membrane.

Dr. Boisliniere.—The pieces were irregular and flat, not symmetrical at all.

Dr. Engelmann.—In Dr. Boisliniere's case I should be very much afraid of sepsis.

Dr. Boisliniere.—The lady seems to be escaping that.

Dr. Moses.—Several months ago I saw a case in which a woman was pregnant, and the tumor was delivered after confinement of a premature child.

Dr. Maughs read a paper, being extracts from his journal while in Paris, giving a description of the Hottentot Venus, as found in the Jardin des Plantes. (Vid. page 117).

Dr. Boisliniere.—The relations between the head and the pelvis are very apparent, and founded upon a great law of nature. The impregnation of the common cow by the buffalo is ordinarily followed by the death of the cow, on account of the disproportionate size of the buffalo calf's head.

Dr. Engelmann.—There is another point to which I would refer, which is obstetrical and not esthetic. The doctor refers to the shape of the pelvis as long and narrow, and Dr. Boisliniere very correctly suggested the difficulty of labor, and mentions the example of the buffalo and the cow. I have observed the ill results of such inharmonious blending of races everywhere in my study of *Labor among Primitive People*; primitive races in their natural condition rarely have serious trouble in labor, unless arising from the effects of rare malpresentation, and, in fact, do not have difficult labors by any means with the frequency with which they occur among civilized people. With civilization comes miscegenation,

and death in childbirth becomes very frequent. This pelvis of the famous Hottentot is, perhaps, a strikingly deformed one, but the shape of the average pelvis and fetal head varies greatly among different people, or rather, among different races. Whilst labor is simple when the child is the result of intercourse with a male of the same race and tribe, it is difficult, if not dangerous, when miscegenation takes place. This fact has always been observed among the pioneers of civilization. On the northwestern coast I have of late heard that it is especially so among the Indians, though not so much as it is in other parts of the world, for instance, in Australia and in certain parts of Africa, where death is very common in women who bear children of whites.

I will report a case apropos to the subject introduced by Dr. Boisliniere. The patient is the wife of a physician in this state, who has been suffering for the past two years; she has passed the menopause, has borne a family of children, has been healthy herself, as is her family; is of small stature, but well built, and of good constitution. In November, 1884, she had what she described to me as a slight cellulitis in the left side, that is, fever and pain in the side with tenderness to the touch, and remained in bed for over a week, this attack passing off in a short time. A year later in November, 1885, a second attack of a similar nature occurred, and then a small growth was first observed; at least a small mass was noticed in the painful region, that is, a little to the left of the left ovarian region, toward the spine of the ilium. That was in November, 1885. Another similar attack, with greater tenderness in the side, occurred, and the appearance of this small mass, which was partly movable, so that the physician thought it a movable kidney. In May of this year a third attack came on, but not as severe, so that the patient was only confined to her room for a few days. The fever was not high, but the mass was thought to be larger. Two months ago she was again confined to her bed with pain, and with some little fever. She complained of a general weakness and began to fail. One month ago the doctor gave me a description of what he supposed a perimetritic deposit with a board-like hardness from the spine of the left ilium toward the navel, and somewhat beyond the navel on the right side, filling up the left lower segment of the abdomen. I found a board-like hardness, which was also to be felt in the vagina, and extended perhaps a finger or two fingers in breadth above the navel. From

the description I supposed it to be a cellulitis. No cachexia was apparent, though patient was weak and worn out by long suffering. I recommended for the cellulitis flaxseed poultices and flaxseed injections, with quinine in large doses. After two days of this treatment the pain diminished, her suffering which had been severe previously, was greatly modified. After the poultices the pain ceased. The morphine which had previously been given the patient in order to keep her comfortable was stopped; no elevation of temperature. After the diminution of this cellulitis the infiltration in the left side also seemed to diminish, and the mass in the vagina decreased, but the tumor grew above the navel, and appeared to grow rather rapidly. Pulse and temperature had been normal, but when I saw her the pulse was 120, and though the temperature was still normal, whilst the mass in the side had softened and diminished, decreasing decidedly, that in the vagina had grown very much, and extended far over to the right. Two months ago a tumor, the size of a goose egg, had developed in the subcutaneous tissue of the thigh; and one month ago, a growth the size of a walnut appeared in the vagina; a few weeks later a third, the size of a cherry, came in the same stratum, near the cervix. I found that the large abdominal mass was probably a fibro-sarcoma with cystic degeneration. It gives the impression of fluid to the examining hand, such as a solid mass might, extremely indistinct, no fluctuation, no wave. Upon inserting the aspirator needle I withdrew some blood with a yellowish fluid which was found upon microscopical examination to contain fibrin and blood corpuscles, but no cells. No positive evidence of cellulitis or an inflammatory deposit could be gained by digital examination. At the orifice a secondary tumor had developed two or three months ago; another, not far from it, during the last few weeks, and from the cervix itself bulging into the vagina a small fibroid growth had sprung which, however, did not seem to be in connection with the large mass above. Practically, I had no doubt as to the course to be pursued. An operation was impossible. These inflammatory symptoms pointed to a cellulitis, the secondary, metastatic tumors, to a neoplasm, and what the fluid should be which was found within the abdominal mass I can not say, since it was not a fluid which would be found in any degenerating tumor. I ordered injections and poultices. The pulse was very rapid, 120, and the patient was evidently entering upon a hectic state. Her hands were hot, though I was told that no ele-

vation of temperature had been detected. She is losing flesh. The tumor does not present the appearance of malignancy. The peculiar development of the inflammatory products, the metastatic tumors and this fluid, which is not one of degeneration, all pointed to a combination of a neoplasm with cellulitis, yet neither history nor examination were sufficient to admit of a positive diagnosis, and I would like very much to hear the opinion of gentlemen in regard to the case.

Dr. Coles.—Does the tumor appear to be developed in the cellular tissue underneath the skin or what portion?

Dr. Engelmann.—This tumor developed in the cellular tissue, the one at the orifice of the vagina was covered by the mucous membrane, the one on the thigh by the skin, and this had at one time presented symptoms of fluctuation.

Dr. Boisliniere.—Was it hard?

Dr. Engelmann.—Not very hard; such as you would expect in a young fibroid or fibro-sarcoma.

Dr. Prewitt.—This tumor in the iliac region: was that intramural or intraperitoneal?

Dr. Engelmann.—A question to the point: There are several tumors, one coming about three months ago, one two months ago, another one month ago; one a few weeks ago, a small nodule began to develop. They are located in different places, one is in the cellular tissue under the skin, the other under the mucous membrane of the vagina in the submucous layer, and near this, in the abdominal cavity, a large hard mass, evidently in connection with it, and of the same kind, I presume. The large mass I can hardly place, whether inflammatory or a rapidly growing neoplasm.

Dr. Coles.—Did I understand you to conclude that these tumors were not malignant? What special reason have you for concluding that there is no malignancy there?

Dr. Engelmann.—I rather stated that she had not the appearance of one suffering from a malignant tumor.

UNFORTUNATELY those minds are few which really possess the rare combination of qualities requisite for a good investigator of truth.—*Mind in Nature*, Nov. 1886.

ST. LOUIS MEDICO CHIRURGICAL SOCIETY.

Stated Meeting, November 16, 1886.

EPITHELIOMA OF UTERUS.

Dr. Prevott presented a specimen with the following history: October 1, 1886, a lady came from Southwest Missouri with an epithelioma of the womb. She had a very offensive discharge. On examination the os was patulous and he could pass his finger up the internal os. There was special pain in the right side of the cervix. A mass seemed to bulge into the canal somewhat to the right. He could not detect any infiltration beyond the womb, and believed that the best thing to do was to remove the entire organ. She consented and October 14, 1886, he removed the uterus in the usual way, separating and detaching it from the bladder with his finger and a pair of blunt-pointed scissors, detaching the peritoneum at the back and bringing it out in that way and then ligating the tissues and broad ligament. The patient did not lose four ounces of blood. She bore the operation very well. He didn't unite the peritoneum above, but simply allowed the parts to fall together, and they seemed to close the whole roof pretty thoroughly. The patient did very well; there was a little rise of temperature, perhaps the temperature reached 100° on Oct. 20, on Oct. 21, it reached 101.5°, on Oct. 22, it fell to 99°, on Oct. 29, it was 99.5°. From that time on it never rose, although she was a little delirious on the night of Oct. 24. She was a very nervous woman and she had taken some opiate to make her sleep, and sometimes she would spring up at night and was somewhat delirious. She seemed to have trouble to get quieted down. There was some tympanites, but never any great deal of tenderness over the lower part of the bowel. The tympanites was relieved by inserting the point of a syringe into the bowel and allowing the gases to escape quite freely.

He waited some time for the ligatures to come away, but they failed to do so, and frequent efforts to remove them failed to bring them away, so that on last Sunday, which was the 14th, he removed them by clipping the loops. They were still very firmly adherent. At the point where the mass of the ligatures was attached, there was some ulceration, not a great deal, but the parts felt soft. There were seemingly no adhesions of the roof to the adjoining structures. Everything seemed perfectly safe and proper, and she went home Monday.

He filled the vagina with antiseptic gauze with iodoform on it. Two or three days afterward it was adherent, and it was several days before it loosened so that he could remove it. He used antiseptic washes and iodoform suppositories, and there never was any offensive odor about the discharge.

Dr. Tuholske congratulated *Dr. Prewitt* on the result of his case. He presented to the society, for inspection, a set of the instruments used by *Schroeder* in that operation of which *Dr. Prewitt* had just spoken. Observation such as that made by *Dr. Prewitt* seemed to demonstrate conclusively that where antisepsis is thoroughly observed the ligatures come away much more slowly than where suppuration takes place. As to the delirium that occurred in the case, it might come with proper grace from him to inquire whether that might not have been caused by iodoform. It does occur when a great deal of iodoform is applied to absorbent surfaces in delicate patients; they have a sort of nervous disturbance with no rise of temperature or febrile reaction. We can readily understand how this might be caused by iodoform in a nervous patient. In all of *Schroeder's* cases of this kind he leaves the wound open, just as *Dr. Prewitt* has done. As a rule, if the uterus is not very large, the operation is not a bloody one, and his operation is done with the patient upon her back. The uterus is thoroughly drawn forward into the vagina as much as possible. For this purpose *Schroeder* uses this forceps. [He here exhibited the instrument]. He takes hold of the neck of the uterus and draws the organ down. The bladder is separated from the uterus by the finger or a blunt pair of scissors, and the great difficulty is experienced in the ligation of the blood-vessels. This is done with large, heavy ligatures using a curved needle which can be readily introduced and which is a very convenient instrument. The hemostatic forceps will reach well up. These instruments are thoroughly practical. The removal of the uterus after its dislocation was not a very difficult one. It is a very much more difficult thing when the body of the uterus is large. This uterus is considerable shrunken, since it has been in alcohol, and does not present the real size of the organ.

Dr. Carson thought it was the experience of most surgeons that the hemorrhage in these cases is rather slight as compared with what we should expect from the number of vessels and their size that supply the part. A physician who was the brother-in-law of a lady upon

whom Dr. Carson operated a year ago last August had made for him an examination a year after the operation, and reported the parts in perfect condition with no evidence of any return of the disease. When she came here she weighed not more than a hundred pounds, or very little over. Now she is in perfect health and weighs 175 pounds.

Dr. Funkhouser stated that in the case which he reported during the summer, a case of carcinoma of the neck with slight indication of infiltration posteriorly between the bladder and the anterior lip of the uterus, in which the uterus was removed, the patient died three months after the operation from a return of the disease. He was afraid at the time that it would return, though the disease seemed to be confined entirely to the neck. The case was very similar to this except that there seems to be in this case a tendency for the extension of the growth along the side up into the body, which of course complicates the matter. In the operation that he performed he found considerable difficulty in drawing the organ down. Perhaps to some extent this was due to a condition in the Fallopian tube, a hydrosalpinx. As a rule there is slight hemorrhage during this operation. In his case he did not have to tie a single artery or use the forceps at all, except in ligation of the broad ligament. The hot douche seemed to be sufficient to check the hemorrhage. In opening the peritoneum he found considerable difficulty. He opened the peritoneum posteriorly, put his fingers up behind the uterus, and then jammed a hole through the probe and tore the peritoneum in that way. This was much more convenient, much safer and easier than using an instrument, as there was a liability of wounding some structure, particularly as it was difficult to draw the organ down.

Dr. Funkhouser said that his ardor had been considerably dampened with regard to this operation by reports from different operators as to the ultimate result of these cases. The mortality is found to be much larger where the entire uterus is removed than where the neck only is included in the operation. The statistics of some of the best operators and the men who have operated the largest number of times have gone so far as to say that no case of removal of the uterus has been favorable *i. e.*, that they never live beyond two or three years, so that the authorities question whether this is the better operation in cases of cancer or to cut off the neck high up and remove part of the body of the uterus.

Dr. Carson said that the microscope showed his case to be one of sarcoma. The uterus was about four times the normal size. The statistics of the latest complications show a mortality in all cases in all operators of only 27 per cent, and from the time of the introduction of the operation the mortality has been very much decreased, showing that as the technique of the operation improves the mortality diminishes. Now persons to be operated upon are selected with a great deal more care than they were formerly. There is no question about the propriety of the operation as affording the patient the only chance under certain conditions. Even if the patient lives only two or three years there will certainly be two or three years of pleasure added to her life. She came to the city with her shroud in her trunk. She had been unable to go out of the house for some months, had been unable to attend to her household duties at all, and life was a burden, and with all the dangers and the possibility of its return before her, she and her husband chose to have the operation performed. It was performed, and nineteen days after the operation she went shopping, twenty days afterward she rode on a railroad 160, or more, miles returning to her home, and in two months she was going about visiting her friends enjoying life and attending to all the duties that devolved upon her household.

Dr. Engelmann said he had followed this operation from its very beginning until now. As *Dr. Carson* had said, improvements of the technique had reduced the mortality very greatly. As to thorough cutting, the deep cutting out of the neck, he had always disliked any of those operations upon a case of cancer, and did not believe that we ever have a perfect success. We relieve the patient, stop the hemorrhage, stop the discharge, make her more comfortable for a time at a very trifling risk, or no risk. But it is altogether probable that the disease will return. There is simply a temporary relief, and he never performed those operations, unless to relieve a patient from hemorrhage or the foul, profuse discharge. Return of the cancer after the complete removal of the organ depends very much upon the cases that we operate upon. Where there is the slightest infiltration, where the surrounding tissues are constantly encroached upon, the operation should not be performed. In a little cancer of the fundus or in a cancer which is confined to the cervix absolutely, where even the cervical tissue where it approaches the vaginal insertion is free, there we may expect a good result

but where it begins to encroach upon the boundary, little is to be hoped. We hear nothing more said of the abdominal operation, and yet certain features come to mind which should still cause us to think of it. A vaginal operation is bloodless, is comparatively safe, but there are conditions which we cannot diagnose. In two cases which he met, before the vaginal operation was introduced, everything seemed favorable, but upon opening the abdomen in the one case he found an adhesion of the omentum to the uterus with a cancerous infiltration already extending into the omentum. In the other one there were adhesions of the intestine in several places, of course leaving the uterus perfectly free and movable; the vagina was not infiltrated and it seemed a proper case for operation. Had the vaginal operation been adopted, probably he would have tied the omentum, but the cancerous disease extended from the fundus to the intestines. These were peculiar cases, not liable to recur, but certainly not to be diagnosed. So the proper cases for operation do not frequently come to the physician, and when the cancer is definitely diagnosed, it is often too late.

A case in point was a lady of sixty who had been suffering from hemorrhage for some time. The uterus was small, the cervix very small, perfectly healthy, and the fundus smaller than normal, the sound entering with difficulty, as the canal was occluded by granulations. It was with difficulty that this bleeding was checked, and after it had been checked for a month it returned. He advocated a curetting, more in order to determine the nature of the growth than anything else. Even that was postponed. She returned early last month with the uterus about the size of a child's head, and hardly movable. The cervix was still in the same condition, very small, no disease, the vaginal insertion not affected, the ligament not infiltrated, but the cancer of the fundus spread from the mucous membrane to the uterus, and he was afraid it was too large for removal. Here was a case which, taken in the early stage, in the doubtful stage, might have been operated upon successfully.

Dr. Prewitt said that when the growth commences high up it is much more likely to be a sarcomatous growth, the chances of infiltration are much less; and the chances of ultimate success of an operation would be much greater.

Dr. Alleyne read a paper on the Therapeutics of Diphtheria *Vide p. 14, January COURIER.*

AORTIC DEGENERATION.

Dr. Hypes presented a specimen of degeneration of the aorta, with the various stages of the disease very nicely shown, calcareous deposit, plastic deposit and also the small ulcerations which occur in these cases. Five different physicians who saw the case were perfectly satisfied that the man was suffering with mitral insufficiency. The heart was evidently enlarged, and edema was very general, and of course there was more or less effusion into the pericardium, so that the exact location of it could not be very well defined, but a bruit was heard over the apex, and also more plainly in the epigastric region than at any part of the chest, while at the superior portion of the chest and along the aorta there was no bruit apparently, whatever. In examining the case post-mortem the valves of the heart were all quite normal, apparently healthy. There was not only dilatation, but partial hypertrophy. The patient had a difficulty of breathing and obstruction of the circulation, such as usually exists in dilatation of the heart. Up to the last six weeks the man had worked constantly in one of the car stables: he was able to perform his whole duty until about six weeks ago he was taken with slight fever, for which he obtained medicine at a drug store, and remained from his work a week or two: then he came to *Dr. Hypes*, who found him with no fever, with no symptoms whatever of any trouble with the heart, and supposed he was mistaken in regard to that. He gradually became worse, however, and was finally confined to his room for the last three weeks. Most of the time for the last week he had been in bed.

NUCROSIS OF NASAL PROCESS.¹

Dr. Todd presented a specimen which was the entire nasal process of the right superior maxillary bone. The history was this: A boy twelve years of age, suffering from congenital syphilis, had already lost a good deal of the septum of the nose, and last March the trouble recurred in his nose. After the acute trouble had disappeared, he was under the doctor's charge during the whole summer for necrosis, but not until a month or three weeks ago was this necrosed piece removed. In the treatment the doctor syringed out the parts with an instrument by which he could throw the fluid into

1. We have failed to receive this paper as yet from *Dr. Steele*, but hope to give it to our readers at a later date with accompanying illustrations. —[Ed. COURIER.]

the antrum of Highmore. He used peroxide of hydrogen, which is now so frequently used by dentists for syringing out the teeth. He used it in full strength, and it cleaned out the parts very thoroughly.

Dr. Steele read a paper on

OSTEOTOMY FOR IN-KNEE.

Dr. Tuholske complimented the paper. As to the use of iodoform he thinks we can sometimes get along wonderfully well without it, provided we follow the course adopted by *Dr. Steele*. If we follow out a very thorough antiseptic course, it naturally follows that we may dispense with any single antiseptic agent and get along very well. While these in-knees are not of very frequent occurrence here, he was very much surprised to find the frequency of this deformity in the old country; having seen dozens of cases both in the young and those of more mature age. Of course, if this operation is to be performed, it is much better to perform it upon a young subject. In patients seventeen or eighteen years of age it seemed to him that one would not readily cut through the femur, as *Dr. Steele* had described and succeed in the same way that you would in a young child. The after treatment described seemed to him very good.

As to the disposition of the female to in-knee, he thought the condition more likely to develop in the female when the pelvis begins to widen and spread out. He would like to know whether it is a fact that in-knee occurs more frequently in the female than in the male.

Dr. Steele believes that in the adult female the knees approximate each other more closely than in the male. They strike together more readily, but not sufficiently to interfere in a greater degree with their gait. As the doctor suggests, however, the change takes place about puberty. He didn't know that there is any difference between males and females as to the occurrence of rickets, but the reason why this disease is more common in Europe and in large cities is because there is not so good ventilation, and the hygienic surroundings are much worse than in less densely populated portions of the country. Of course in performing the operation upon an adult it would be necessary to cut further into the bone than with a child, the objection to chiseling the bone there is from the danger of displacement of the fragments.

Dr. Mulhall had spent six or seven years in Europe and had met with a great many men who made a special study of the bones, and he thinks that there ten times as many such cases there as we see here. He agreed with *Dr. Steele* that this is due very greatly to the lack of proper food and hygienic surroundings. Good food is much cheaper in this country, and the poor people are much better fed than they are in any other country. A great many poor people in this country eat meat all the year round, whereas in European countries meat is only furnished to a very limited extent,

Dr. Homan asked if it is not true that a very large proportion of these deformities occur among the colored race, negroes and mulattoes?

Dr. Steele had never seen any record of cases of this kind.

Dr. Homan asked whether most of these subjects are not of a strumous tendency, if they are not apt to develop tuberculosis.

Dr. Steele did not know whether they were more frequent among tuberculous subjects than any other. His own patient was scrofulous, but scrofula and rachitis are two different diseases. He thought that colored children are much more subject to bow-legs than white ones but, strange to say, they outgrow it.

FRACTURE OF PATELLA.

Dr. Dean said all children are born flat footed, and the feet turn in so that the bottoms of the child's feet can be turned together; this is quite a curious fact. About three and a half weeks ago he was called to a case of fracture of the patella in which there had not been any bony union, and there was a separation of the fragments. He cut down upon the patella transversely, and found a broad ligamentous band between the two fragments. He tried to bring these two fragments of the patella together, but could not do so. He then commenced to dissect off part of the quadriceps extensor attached to the upper fragment of the patella, which he thought he could do without interfering with the function of the bone, but he still found considerable difficulty in getting the fragments of the bone together. He then made an incision just below the tuberosity of the tibia and chiseled that off, and slipped that piece of bone with the tendon up, and got the parts in their proper position. The patient is now getting along very nicely.

NOTES AND ITEMS.

A WORD FOR DRY EARTH.—Dr. Parker, Health Officer of the city of Auburn, N. Y., reports that the city is literally perforated with cesspools and sunken privies which contaminate the wells, and, as in so many other places at the present time, typhoid fever is prevailing. He recommends the compulsory adoption of dry soil closets, as a remedy for the contamination of wells, and “for several other reasons which are too obvious to mention.” Meanwhile citizens should use city water. “A well situated on one of the highest locations of the city, of what would ordinarily be considered ample depth, not in a crowded neighborhood or in very close proximity to any privy or cesspool, has always given very excellent water. All at once it began to smell and taste foul, and the owner had it cleaned, but reports the finding of a vein of sewage, freely discharging into the well at a considerable distance from the surface of the ground. Now this well, situated in as favorable a spot as we could ordinarily expect to find, suddenly becomes contaminated. How much more dangerous must it be where wells are shallow or situated in crowded localities and on low ground. It is a well known fact that sewage and poisonous organic material may be present in water in a sufficient amount to endanger life and still not be detected in taste.

“PRACTICE” is the name selected by Dr. A. J. Winn for his new medical journal, published at Richmond, Va. He intends to make all its articles brief, and to devote a large share of the space of the journal to well condensed abstracts of important articles appearing in other journals, i. e., to giving “the kernel of such professional experience and progress” as seems best adapted to the aid of the general practitioner. We wish him all success in his undertaking.

PERSISTENT DUCTUS ARTERIOSUS.—At a meeting of the *Société des Sciences Médicales de Lyon* held October 27, 1886, M. Vinay presented a specimen consisting of the heart just taken from the

body of an infant eleven days old, who had presented during life an increasing asphyxia.

There was found persistence of the ductus arteriosus; a normal condition during the first three or four days after birth, but abnormal after that period. There was also an abnormal communication between the two ventricles by an orifice of the size of a large pin's head situated in the upper part of the interventricular septum.

During life the special symptom was the cyanosis. Post-mortem examination of the lungs showed that only a part of them had respired. Placed in water they did not float.—*Lyon Med.* 14 Nov., '86.

THE SOUTH-WESTERN MEDICAL GAZETTE is the title of a new medical journal published at Louisville, Ky., under the editorial direction of Drs. M. F. Coomes and J. B. Marvin. The numbers received are well arranged, and contain a number of excellent articles. We gladly place it upon our exchange list.

THE AMERICAN RHINOLOGICAL ASSOCIATION would be pleased to have authors send any monographs, papers or books, treating of any diseases pertaining to the Nose, Throat or Ears, to the Librarian, Dr. N. R. Gordon, Springfield, Illinois. Due acknowledgment will be made by the Association.

CHLORAL HYDRATE AND FEHLING'S TEST.—O. W. Sherwin has found that chloral hydrate in urine causes a reduction of copper in Fehling's test liquid just as sugar does. He discovered this in a specimen of urine to which a small amount of chloral had been added to prevent decomposition. He found the same reduction to take place in some cases where chloral was administered internally in cases in which there was no sugar present, as determined by subsequent tests when no chloral had been administered.—*Bost. Med. and Surg. Jour.* Nov. 18, '86.

MEDICAL LITERATURE OF THE FUTURE.—Dr. Flint in his address "Medicine of the Future," said: "The time may come when fewer books will be written with a view to impress upon credulous readers the superior attainments and skill of their authors as practitioners in some special province of medicine." It is to be noted that the eminent physician simply suggests this as a possibility, not venturing to offer a prediction to that effect.

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ORIGINAL ARTICLES.

GALVANIC AND FARADIC ELECTRICITY IN THE TREATMENT OF UTERINE DISPLACEMENTS.

GEO. J. ENGELMANN, M. D., ST. LOUIS, MO.

[*Read before the St. Louis Obstetrical and Gynecological Society, Jan. 19, 1886.*]

THE treatment of uterine displacements by the electric current, or rather, as it would be more correctly expressed, the use of electricity in the management of uterine displacements, has been briefly discussed in my recent paper upon Gynecological Electro-Therapeutics, read before the American Gynecological Society, in September, 1886. I have not only verified the results previously obtained which are there reported; but I have been convinced by constantly accumulating evidence that we have in galvanic and faradic electricity a most potent and practically available method of treatment by which we are materially assisted in overcoming these persistent and often perplexing disorders.

As frequently as uterine displacements occur either as cause or result of pelvic disease in women, as much as the management of versions and flexions has occupied the professional mind, numerous as the devices resorted to for their relief have been, the

electric current has received no appreciable share of our attention, the most ruinous device, if in the form of a pessary or an intrauterine instrument and the most doubtful or dangerous medication, if for the cavity, have been treated with greater consideration than this truly valuable remedy.

Isolated suggestions have now and then appeared, but, falling upon sterile ground, were soon forgotten. Practically, electro-therapeutics of flexions and versions has never existed. The present status of the question is best demonstrated by the teachings of our text-books and the practice of our gynecologists.

A few lines only are devoted to these applications by comprehensive text-books on electro-therapeutics, and their superficial, and I may say theoretical, treatment of the subject seems to indicate but little faith, and readily explains the unwillingness of the practitioner to test them.

Erb (Translated by Putzel) p. 355 says:

“Displacements of the uterus have also been treated by the electrical current. Such treatment is not devoid of promise in those cases in which they are in the main due to relaxation of the walls of the uterus. In many other cases there is very little hope of relief from such measures.

Even Simpson had recommended a sort of electrical intra-uterine pessary in displacements of the uterus, as well as in chronic metritis; favorable results from electrical treatment of versions and flexions have been since reported by various observers.

While Bartholow employed the galvanic current exclusively, E. Mann used galvanism and faradism alternately, the majority of writers, however, applied the faradic current alone in order to produce vigorous contractions of the uterus and thus relieve the change of position. As a rule the current was passed from the os uteri into the abdominal walls. Zannini introduces one electrode into the rectum, the other into the uterus, and faradizes for five or six minutes, with a current of gradually increasing strength.

Tripier has developed these methods most elaborately: in anterior versions and flexions he faradizes the posterior surface of the uterus with a suitable electrode which is placed in the rec-

tum ; in similar posterior displacements the anterior surface of the uterus is faradized from the bladder or abdomen; in both cases a (negative) electrode is introduced into the uterus. In prolapsus uteri he states that good results have been observed from "bi-inguino-uterine," or "bi-inguino-vaginal faradization."

This is all that Erb, one of the most prominent electricians of the day, says about the subject, in a book of 266 pages, and since he refers us to Tripier, as the one who in his opinion, had most fully developed this field, and quotes his method, I take it that he looks upon Tripier as the authority. Now let us consider the teachings of the great Frenchman in the electro-therapeutics of versions and flexions.

Tripier in his recently published *Electrologie Médicale*, Third Edition. Paris, 1885, says:

"Anteversion and anteflexion, recto-uterine faradization, sittings of three minutes usually on alternate days. Sittings more frequent and treatment less prolonged for versions; sittings less frequent and of longer duration for flexions; the same being true of retro-displacements. Retroversion and retroflexion, vesico-uterine faradization."

An important subject rapidly disposed of! The contracting action of the faradic current utilized to pull forward retro- and and drag backward antero-displacements.

I will enter no further upon the literature of the subject; the above quotations from most eminent and recent authorities will suffice to demonstrate how little has been accomplished, but the utter insignificance of electricity as an available agent for the relief of flexions and versions is made most evident by the silence of all writers. Gynecological text-books ignore the electric current, notwithstanding that all possibly available remedies are cited for the relief of these often very trying conditions; not even the present revival of electro-therapeutic science, especially upon the field of gynecology, as inaugurated by our esteemed colleague, and honorary fellow, Dr. Apostoli, of Paris, has as yet suggested the application of this subtle fluid, by which so much has been accomplished, from which so much is yet expected.

It is apparent that treatment such as that recommended by

Tripier must fail, or at best prove so unsatisfactory, that it could never be be classed among the methods recognized as available in the management of flexions and versions; the very idea upon which the application is based bears upon its face the stamp of the study, and must at once appear to the clinician as theoretical, and moreover faulty, so that we cannot wonder that it has not been tested, and if tested has failed and was consigned to oblivion.

I was not satisfied with this verdict, having found the electric current so valuable a remedy in gynecological practice, and observing the improvement of displacements during the treatment of other uterine disorders by this method, I very naturally concluded to resort to electricity direct for their relief. The result was a most satisfactory one, and after prolonged investigation I can most conscientiously corroborate what I have said upon the subject in the paper already referred to; the electric current serves as an aid more or less valuable according to the existing condition, in the management of the various forms of uterine displacements. Though the current assists in the treatment only, it is one of the most potent elements in what I would call the proper method of treating displacements, *the removal of the cause.*

I have looked upon a version, a flexion or a prolapse in the main not as a disease and to be treated as such, but as a resultant or concomitant of other pathological conditions, and to be remedied by overcoming the determining cause and the accompanying changes. For this purpose I have recommended the medicated and supporting tampon; and the electric current I have found to be a potent auxiliary, though by far more effective and rapid in its action; it neither interferes with the dry treatment, nor does it render it unnecessary or ineffective; each serves its particular purpose, and both tend to accomplish the same result.

An admirable feature of this method is that it does not counteract or prevent the use of other applications.

Method Used.—A few words only with regard to the method which I have fully described in the paper repeatedly referred to. We must cease to look upon electricity as one rem-

edy: it is a *general term* for a *method* of treatment, comparable to *medication*, or to *surgery*. In the management of uterine displacements we employ the polar method altogether, polar action mainly, the interpolar current only when the part to be affected is beyond the reach of the former. The *therapeutic qualities* utilized are the *alterative*, the *absorbent* and even the *electrolytic*, the *tonic*, *stimulant* and *contractile*, all directly effective for the relief of those conditions which most frequently determine or accompany displacements, *i. e.*, *relaxation* of tissue, *induration*, and *chronic inflammation*.

The electric current, by reason of its peculiar character is especially adapted for the treatment of deep-seated tissues, which are beyond the reach of other agents: This invisible fluid permeates every part and particle of an organ which is interposed between the electrodes, and affects alike the nearest and the most remote; the anatomical relations of the female pelvic viscera are such as to admit of the most advantageous use of all the valuable qualities of this agent for any and all of their parts. Many of the tissues can be reached directly as the mucous surface of canals and cavities, and others by puncture with the needle, but all can be brought isolated between the poles, so that the interpolar current can be utilized to its fullest extent without the interposition of parts not to be affected. Whilst neither medication nor medicinal applications can be made to exert any marked or rapid influence on the indurated tissue of a uterus in a stage of chronic metritis, or the tenacious peritoneal bands and inflammatory exudations of a perimetritis, they respond to the action of the electric current as readily as any external hyperplasia, be it applied by the stylet direct, by puncture, by cauterization of the mucosa or carried through from pole to pole.

The electric current has proven in my hands more effective than any other individual agent for the permanent relief of uterine displacements, but to obtain satisfactory results every method which may assist in the treatment must be utilized, and none is more necessary than the tampon or such mechanical means as will serve to retain the parts in a position as nearly as possible to the normal, thus giving permanency to the conditions temporarily established; the advantage derived from each single

application must be retained and developed by proper support.

If the vagina has been contracted by faradization in a prolapse, the circulation stimulated in a flexion, and absorption inaugurated, by galvanism if metritis exist, the tampon will keep the parts in such a position that the condition so established may be continued, and the return of any causative morbid status may be prevented.

I rely upon the dry treatment, medication and support by the elastic tampon, to further and establish the results obtained by electricity; the pessary I employ only in cases of relaxation, uncomplicated by inflammatory conditions, and then but rarely; never if the patient can remain for treatment. I seek to give the necessary support by the elastic tampon, which affords a soft, non-irritating mechanical support, and by the remedy added, contracts, or stimulates the tissues as needed; this can be used to advantage in all cases, even in inflammatory stages and will soon supplant the dangerous pessary, by which inflammation is aggravated, if not excited, and the parts often irritated and distended.

In the treatment of displacements I employ the electric current to overcome the existing pathological conditions be they cause or result of the uterine deviation, (this I look upon as the main object to be attained, and to be furthered by such therapeutic measures as may be called for).

Mild intra-uterine applications are made, if necessary, and with the medicated supporting tampon and postural treatment at the home of the patient enable us to cope successfully with displacements which have so long been vainly attacked by the pessary.

I apply the electric current, then cleanse the parts, removing the frothy coagulum if puncture or cauterization has been used; if in the cavity, it is touched with a 10 per cent carbolic acid solution, unless other intra-uterine medication be indicated; the vagina is thoroughly dried, dusted with an astringent, antiseptic or antacid powder, and the tampon applied, which remains in place, until a few hours previous to the next treatment, and in cases of extreme, purely mechanical displacement, is not removed until the patient returns, which is either upon the second or third day.

The same general rules which I have given for electro-thera-

peutic applications in gynecological practice hold good for the administration of electricity in flexions and versions; the time of treatment varies from 3 to 8 minutes, usually five minutes, and this should be repeated before the effect of the previous application has completely passed away, yet time enough must be given for the treatment to take effect; only if strong contractile action is desired should the sittings be repeated daily; in most cases every second day will suffice. On an average the applications are made every second or third day; only in cauterization or puncture with high intensities, once a week.

How is This Force to be Utilized?—As the electric current is a medicinal agent *sui generis*, neither comparable to nor conflicting with others, but compatible with them, so in the treatment of uterine displacements peculiar functions are relegated to this new found potential; which is not to supplant, but to assist and further such methods as are already in use: those who use the pessary will find this more efficient if the vaginal tissues are strengthened by the proper application of faradism: Those who rely upon postural treatment will hasten a result if the tissues are stimulated or pelvic adhesions relaxed by galvanism: medicinal applications are assisted by electro-therapeutic measures, and the tampon is strengthened by the increase of functional activity brought about by electricity; whatever measures be resorted to, their effect will be furthered by the proper use of this powerful agent, which will prove a most desirable addition to the methods already in use, if not the most effective in the treatment of uterine displacements.

The conditions most commonly causing and accompanying Uterine Displacements and which are amenable to treatment by the electric current are:

A. Chronic inflammations.

1. Hyperplasia of the uterus and metritis.
2. Endometritis.
3. Perimetritic adhesions.
4. Contraction and induration of ligaments and support.

B. Relaxation and Congestion of tissues.

5. Subinvolution of uterus.
6. Subinvolution of vagina and uterine supports.
7. Permanent relaxation, anemia and atony.

In all conditions of relaxation, we rely upon the contractile action of the faradic current of quality and low tension from the short secondary helix of heavy wire, with interruptions of moderate rapidity.

Induration and chronic inflammation is met by the alterative and absorbent influence of the negative pole of the galvanic battery, the small, non-metallic cathode as the active pole as near as possible to the part to be affected, the anode, as the dispersing plate directly over its abdominal site. I would recommend for alterative purposes, currents of ten to thirty m.-a., to produce absorption intensities of 40 to 80 or 100 m.-a., for five minutes more or less. An electrolytic action is necessary, for the relief of hyperplasia, and, I use the negative metallic pole in the diseased tissue with currents of 50 to 100 and 150 m.-a. for four or five minutes, with the medium or large plate over the fundus as positive dispersing pole. The same current is relied upon if endometritis is present, but applied with the sound to the diseased membrane.

If the hyperplastic uterine tissue cannot directly be reached by puncture with the electrolytic needle, an intra-uterine application is made, as in endometritis. This application of the cathode to the mucosa for the purpose of inaugurating a retro-grade metamorphosis is one of the most effective and successful remedies.

To stimulate functional activity in the uterus, or in the atrophied portion, as in the angle of flexion, we utilize the cathode with intensities of 10 to 20, hardly as highly as 30 m.-a. or bipolar, intra-uterine faradization with currents of moderate tension and quality, in sittings of from four to six minutes.

To stimulate pelvic circulation and hasten retarded development of the uterus itself, similar applications are made, varied by vagino-abdominal faradization, or negative vagino-abdominal galvanism with intensities of 10 to 20 m.-a.

To promote involution of the uterus, utero-abdominal and bipolar intra-uterine faradization with currents of quality and low tension is very effective; bipolar intra-uterine galvanism with stronger currents will produce contraction and functional stimulation.

Mild faradic currents of medium quality may serve as a tonic and stimulant, and currents of quality and low tension as a powerful contractor to produce what may be called massage of the parts, for which purpose interruptions should not be frequent, that the effect may not be tetanic.

How the Current is Utilized.—Uterine hyperplasia and chronic metritis, so frequently a cause of anteversion and an accompaniment of retroflexion, is treated by electro-cauterization of the uterine mucosa with intensities of from 50 to 150 or 200 m.a.; this is at the same time the most effective remedy for endometritis which so commonly co-exists; in this cauterization the diseased mucosa is destroyed, (or stimulated according to the intensity of the polar action) absorption is promoted in the surrounding tissues, uterine and circumuterine, by the interpolar current, and retrograde metamorphosis is inaugurated in adhesions, effusions and metritic induration. If the uterus is large, low, readily reached, negative electro-puncture is resorted to, the cathode, armed with a platinum needle or a small stylet, (= to No. 1 catheter), is plunged into the tissue, parallel to the uterine canal, and a strong current is passed for five minutes, more or less.

If an anteversion has become excessive by long continuance, and metritis with the usual train of accompaniments has appeared, the canal may be so narrowed as not to admit of medicinal applications, and the diseased part cannot be reached by the needle without difficulty. A negative electro-cauterization of the endometrium is then our first entering wedge, the canal is enlarged and straightened; at the same time the endometritis is treated by chemical cauterization by the pole direct, and absorption and retrograde metamorphosis is inaugurated, and functional activity stimulated in the hyperplastic fundus by the interpolar action of the current.

If the anteversion is caused by adhesions, or perimetritic effusion fixing the lower portion of the uterus posteriorly, absorption of such inflammatory products is furthered by the cathode of the galvanic current, and later the activity of the tissues is stimulated by faradism, both currents applied in the same way, a non-metallic, cotton covered ball electrode, the cathode, is placed in

the vagina and pressed against the part to be reached, whilst the anode serves as the dispersing electrode over the fundus, on the abdomen. From 40 to 80 m.-a. for five minutes, even eight or ten minutes in extreme cases, with the medium or large plate are applied; weaker currents, with the cathode, serve rather as a stimulant. Faradism of moderate quality and tension with frequent interruptions follows as a stimulant: greater quality, lower tension, and less frequent interruption is used when we wish to contract the congested and relaxed vagina.

A flexion due to relaxation of tissue is overcome by utero-abdominal, or bipolar applications of faradic currents of quality and low tension, moderate intensity, or by the stimulating action of galvanism: the cotton wrapped applicator, insulated up to within two inches of the end, well soaked in warm water, is placed within the cavity, the small or medium plate over the fundus, and currents of 10, 20, at most 30 milliamperes are applied for six or eight minutes.

Retroversions, unless due to adhesions, are commonly the direct result of subinvolution of the uterus itself, or of the vagina and other uterine supports, which is effectively treated by faradic currents of quality; bipolar intra-vaginal and labile vagino-abdominal applications to affect the vagina, stable vagino-abdominal currents, for the circum-uterine tissues and intra-uterine, or utero-abdominal currents for the uterus itself, with non-metallic intra-uterine pole.

Retroflexions, like antelexions, are dependent upon or aggravated by metritis, endo-metritis and cellulitis, or by perimetritic adhesions, but most frequently they may be traced to subinvolution and relaxation of the uterine supports, especially the vagina, hence the stimulating and contracting action of faradism of quality and low tension is almost invariably called upon. Chronic inflammation must be relieved, contracted tissues or adhesions relaxed by the absorbent influence of galvanism, but until the weakened supports are restored, permanent reposition by mechanical means cannot be expected.

Descensus or prolapsus, if due to enlargement of the uterus or relaxation of the vagina, may be relieved if the tissues retain sufficient vitality; if the perineal support is insufficient the result

can only be palliative. I rely mainly on the contractile action of faradic currents of quality and low tension applied to the vagina, the uterus, the ligaments and abdominal muscles; but galvanism is frequently needed for the relief of accompanying endometritis and hyperplasia.

MECHANICAL DETAILS.

I.—*Applications to the Uterus* are made

a. With both poles in the cavity, the bi-polar application to contract and to stimulate, making it possible to use stronger currents, as they are confined to the less sensitive intra-pelvic tissues and do not enter the sensitive cutis.

b. The active pole in the cavity and the indifferent pole with the dispersing plate on the abdomen, over the fundus.

1. The active intra-uterine pole is metallic, and is so used with stronger galvanic currents as a chemical cautery for the endometrium, electro-cauterization of the uterus.

2. The active intra-uterine pole is non-metallic, a moistened cotton wrapped applicator, if cauterization of the mucosa is to be avoided and a stimulating effect is desired.

3. The active intra-uterine pole is used for purposes of medication; the cotton wrapped applicator is saturated with fluid electrolytes.

c. The active pole in the tissue, with strong galvanic current for electrolysis and absorption. Electro-puncture. The indifferent pole with the dispersing plate is over the fundus on the abdomen.

d. The active pole against the cervix, as a non-metallic (cotton covered) ball, or cup-shaped electrode, the indifferent, dispersing pole on the abdomen. This is applied, if the cavity cannot, or should not be entered, and it is desirable to affect the entire organ either by galvanic or faradic currents.

II.—*Application to the Vagina:*

a. Both poles in the canal, the bipolar or intra-vaginal application. When very strong faradic currents are to be used, which are not borne externally and should not extend to parts not to be affected, especially in sub-involution, the poles should be non-metallic, covered with moist absorbent cotton.

b. The active pole is in the vagina, non-metallic unless cauterization is desired; the indifferent pole, as a dispersing plate, is on the abdomen over such part to which treatment is also directed, the fundus uteri or the diseased ovary.

III.—*Application to the Circum-Uterine Tissues, Ovaries or Ligaments.*

a. Vagino-abdominal applications; the active pole is placed in the vagina as near as possible to the tissue to be reached, always non-metallic, a round or oval ball, $\frac{1}{8}$ to 1 inch in diameter, covered with absorbent cotton saturated with warm water. The dispersing electrode at the indifferent pole is placed on the abdomen as nearly as possible over the part to be reached.

b. Medicinal application may be so made by saturating the pole nearest the affected part with a fluid electrolyte.

c. If powerful electrolytic action is desired, and the part under treatment presents sufficient body, it may be reached by the pole direct, a platinum needle which is inserted into its tissue per vaginam, electro-puncture.

The applications are invariably stabile, with the most careful avoidance of shock. Labile applications are admissible only in vagino-abdominal faradism for contraction of the vagina, when the intra-vaginal pole may be moved along the vaginal walls to reach all points.

The resistance of the tissues, between the vaginal or uterine, and the abdominal electrode varies from 100 to 600 Ohms, being generally from 200 to 300 Ohms.

[TO BE CONTINUED.]

THERAPEUTIC APPLICATIONS OF ELECTRICITY.

BY C. H. HUGHES, M.D., ST. LOUIS, Lecturer on Neurology and Electrotherapy, St. Louis Medical College, etc.

Read before the St. Louis Medical Society.

EVER since Thales of Miletus, six hundred years before the Christian era, discovered the power of *electron* (amber) after friction to attract light bodies, electricity has been a sub-

ject of general wonder, whether displayed in the electric eel, in instruments of man's construction, or in the batteries of the great Omnipotent, when the electric currents of the clouds are seen or heard in lightnings and thunder.

Ever since Swammerdam, toward the close of the seventeenth century, saw a frog's leg contract through its influence, and Galvani, a century later proved it, this wonderful force has presented a peculiar and increasing attraction to scientists, and ever since our own Franklin who, with lightning hand, grasped God's hand in nature and brought the convulsive force of the clouds to earth, it has been a subject of therapeutic study in this country. For in 1758 he applied it to disease, and caused a paralytic hand to regain, in great measure, its cunning, and before him in Geneva and the metropolitan centres of all Europe and Great Britain, its powers over disease had begun to be a subject of investigation. Its promiscuous, purely empirical employment by the unprofessional, among them the renowned and reverend John Wesley, and the exalted claims put forth for it by its hopeful votaries raised public expectation so high that a reactionary incredulity concerning its powers took the place of previous faith, when its many failures became as well known as its published miraculous cures. For though Watson by it cured a child of chronic congenital muscular spasm, (something akin to the later discovered Thomsen's disease) and Brydone, Nilson and DeHaen cases of long standing deafness, and it had been successfully used by a surgeon of Leeds in amaurosis, and others had relieved neuralgia, headache, rheumatism and chorea, the disappointments and accidents which followed its incautious and unskilful employment counteracted the good impression made by these physicians.

Quacks and mountebanks seized upon it because of its astonishing power, and being reckless and indifferent to its dangers, as they are to this day, employed it without caution, and promised cures it could not, in their hands at least, perform. Out of this ill usage of a truly good remedial agent, the false hopes raised, and unfulfilled promises made, grew distrust in the professional mind which, to some extent, still abides, but which is destined, under the more certain and definite light now being

thrown upon this subject, to give way to its confident and satisfactory employment in therapeutics.

Neurotherapy has taken the lead, but general therapy must and will invoke its certain aid in all those morbid conditions in which its therapeutical utility can be demonstrated.

It is one of the greatest forces of nature and destined, in my judgment, to play as important a part in influencing, and controlling morbid conditions in the human organism, as it exerts upon inanimate nature, as displayed in its employment in physics, the arts and the natural sciences.

To employ it aright in therapeutics we should study well its precise powers over the physiological and chemical actions of the organism, and to an inquiry into these powers we first address ourselves. These are its physical effects on the system, and to understand them thoroughly is to find out a rational basis for its successful therapeutic employment.

CHEMICAL AND PHYSICAL CHANGES IN THE SYSTEM, INDUCED BY DYNAMIC ELECTRICITY.

ABSORPTION AND ENDOSMOSIS.—While strong galvanic currents can arrest endosmosis, mild induction currents have a contrary effect. Remak promoted this physiological phenomenon by placing the positive pole on edematous parts, and the negative pole between the swelling and the cerebro-spinal axis.

If two small blisters are made upon the skin, and the positive pole be placed on one and the negative pole on the other, and a strong current be passed between them, the blister under the positive pole will become dry within a quarter of an hour after the electricity has passed, and under the negative pole a new blister will be found.

Likewise in pure electro-cautery the eschar under positive pole is paler, dryer and harder than that under the negative pole which is soft and moist.

Remak was the first to observe this, and Legros and Onimus first explained the phenomenon upon the hypothesis of vascular contractions, a physiological fact, since abundantly confirmed, but the power of electricity over endosmosis was known to De-trouchet.

EFFECTS ON NERVES AND FLUIDS.—The nerves and the fluids

of the body are good conductors, and it is through nerves and channels of moisture that with galvanism or faradism we can get into the interior of the body in certain direct lines from pole to pole, in certain parts.

Schiff asserted that the passage of an induction current through a nerve produced appreciable elevation of temperature, and very strong currents must, undoubtedly, heat and destroy nerves, as the galvano-caustic current heats the wire, but heat is mostly developed in a part by increase of vascular supply through muscular contraction and reactionary influx of blood after brief vaso-motor stimulation and arteriole contraction. The opposite state of heat depression through electrically induced anemia, would likewise occur if applications were not too prolonged.

Nerves may be damaged by crossed currents, but they can not be excited to physiological action by electricity applied in this way.

Galvanic, faradic and static currents may be made to penetrate the cavities of the body, the two former only through connecting the body with both poles, the latter in this way and also by electrical discharge. Faradic electricity is, however, more a surface current than galvanic. The faradic and static forms of electricity exert greater power over the voluntary muscular contractions than the galvanic. The galvanic exerts its most beneficial influence on the non-striated muscular fibres through the vaso-motor mechanism.

It may be sent to remote interior parts with more certainty and accuracy and less harm than other currents. It can be passed through the brain, and is the only current which, as a rule, in the present state of our knowledge, can be safely employed, to any considerable extent upon the interior of the head.

A faradic current from centre to periphery causes stronger muscular contractions than from periphery to centre.

CHEMICAL EFFECTS—ELECTROLYSIS.—Electrolitic decomposition is the chief chemical effect of electricity, acids being formed and liberated at the positive electrode, and alkalies at the negative. When muscles, severed from the living organism, are subjected long enough to electric currents, the mineral acids, sul-

phuric, nitric, muriatic and phosphoric, are formed at the positive pole and potassa, soda and ammonia, at the negative electrode.

This decomposition at the poles is due to the acids and alkalies formed at the respective poles, for if alkalies be placed at the positive pole to neutralize the acids, and acids at the negative pole to neutralize the liberated alkalies, no blister results.

It can not be shown that any internal decompositions take place in electrolysis when the ordinary currents are used. The decomposed elements of the organism appear only at the electrodes.

This is an important point with reference to constitutional electrization, and also shows the probable fallaciousness of the claims of certain quacks that they have been able to extract the mercury and other poisonous minerals put into the system by the regular profession.

ITS POWER TO COAGULATE THE BLOOD.—Electrical currents passed through the blood in sufficient strength cause it to coagulate at both poles, but chiefly at the positive pole.

Heidenreich found the coagula at the positive pole to be composed mainly of albumin, fibrin, fat and acids; chlorine also appeared at this pole. The coagula at the negative pole were made up mainly of iron and the alkaline and earthy bases. The watery and alcoholic extracts and coloring matter also appeared at the negative pole.

The contractile power of electricity over surrounding muscles and its influence over the ganglionic system added to this coagulating power, contribute to the cure of aneurism by toning and contracting arterial walls, especially of the small arterioles in miliary aneurisms, and strengthening the vessels by artificial walls of fibrin, etc., when electrodes can be inserted.

In 1869, Cliniselli reported out of twenty-one aneurisms treated by voltaic electricity, fourteen successes and seven failures. Inflammation and gangrene set in in five of the failures, probably because too strong a current was used. He used a current of sixty to eighty piles of large surface elements. The current emitted bright sparks and its tension was greater than necessary for mere coagulation of blood. Out of nineteen aneu-

risms treated by the batteries of Wallaston, Daniel, Bunsen and Senée, there were eight cures and eleven failures. Of the eleven failures four failed because the operation failed, five died and two were made worse. Grave accidents followed in all the eleven. This was in the earlier days of galvano-puncture for aneurism. Since then numerous successes have been reported by different surgeons, and likewise many failures.

I do not think the coagulation should be so much aimed at, especially in the aorta, as tonicity to the weakened arterial walls; and I believe it would be better to apply the current along the arterial walls and to affect the vaso-motor ganglion supplying the affected artery where practicable by a number of preliminary mild treatments, say fifteen or twenty daily séances, if that much delay were admissible before resorting to the puncture.

Hamilton has reported one hundred and twenty-six cases, out of which there were forty-six recoveries.

He might have had more recoveries had he treated his cases earlier and endeavored to affect the tonicity and improve the strength of the arterial walls by electrization, preliminary to galvano-puncture. In all such cases I would insulate the patient daily and give him a quiet charge of positive static electricity.

Some put the positive pole into the sac. This pole makes the firm clot, the negative makes the soft one. Althaus and Pepper employ both. I believe it is best to put in only the positive pole. It is said that clots formed by electrolysis have not been known to dislodge and cause embolic closure of distant vessels. This statement is not proven.

This coagulable power of electricity suggests its value in purpura hemorrhagica, varicose veins and hemophilia.

I have employed it to some extent in these states, but not alone because of its power of coagulating the blood and not without the aid of static electricity.

Static currents of a certain strength not only produce decomposition of blood, but they exert a physiological action over the vessels, as already intimated, which will claim our attention later.

We are now considering the locally disintegrating power of electricity. The blood is here disorganized, and its component elements are separated by chemical action.

In it the scientific therapist has the control of a great power for good or ill, just as the machinist and the engineer have in steam a great power evolved from the disintegration of inanimate matter, and either, according as they are used, may benefit or destroy. The judicious physician will not ignore this power because of its strength for evil any more than he rejects a potent drug because in improper hands it may do harm.

GALVANO-CAUTERY.—Next to the electrolytic power of this agent is the galvano-cautery which is direct disintegration by heat destruction. The heat is developed by the quantity of electricity and the degree of resistance in the conductor. It is the most perfect form of actual cautery because it is a fire without blaze or smoke, which may be lit and extinguished at pleasure, and definitely circumscribed. It stops hemorrhages as the ancients did, (with boiling oil) but in a more refined, less formidable and less painful manner. Ends of nerves may be instantaneously destroyed by it in a part, and after that there need be no pain. It may be made to cut with the precision of the knife in certain otherwise inaccessible parts, and it leaves an eschar that protects against hemorrhage and infection. (There are obstacles in the way of successful galvano-cautery in certain regions and tissues, which it is not germane to our present purpose to discuss.) It requires a skilled hand in its use, just as the surgeon's knife does, and may kill or cure; but the surgeon does not hesitate to resort to a daring amputation, because per chance the only knife at hand may be an assassin's dirk.

ACTION ON THE NERVOUS SYSTEM.—Electricity has the power to contract muscular fibre, both striated and non-striated, and in non-striated muscles the temperature rises very sensibly, often as high sometimes as four or five degrees Fahrenheit. The temperature change is due mainly to the muscular contractions and circulatory changes. In the beginning of electro-muscular contractions there is, according to Ziemssen and others, a slight lowering of temperature, but Ziemssen found after faradic contraction had been continued for a few minutes, the temperature began to rise, and continued rising till it reached an increase above normal of one to two degrees Centigrade. The maximum temperature was reached after cessation of contractions. Here

are two other therapeutic powers—muscle contraction and heat production in a part.

Faradic or induced currents contract the voluntary muscles more powerfully than galvanic or voltaic.

The real cause of this difference is not certainly known. Ziemssen thought it was due to the difference in rapidity of the two currents, but this is not known.

The contractile effect of galvanic currents, even when interrupted, is markedly less on voluntary muscle than those of faradic electricity.

When nerves or muscles undergo alteration, their impressibility to electric stimuli generally diminishes, and a longer and stronger current is necessary to promote contraction, but there is an exception to this law in certain states of muscular degeneration.

When from any cause striated muscles undergo a certain kind of degeneration through central nerve conditions, and they lose their striated character. They contract more readily to the constant current—this is the reaction of degeneration.

Electrical currents have the following effects on the muscular system in disease.

1. There are cases of peripheral paralysis, when the muscles do not contract either under influence of the will or of voltaic or faradaic currents, and I have found some cases will not respond to static shock.

2. In some cases motility is in part preserved, but neither the affected muscles nor their motor nerves are excitable by induced or voltaic currents. Eulenberg found this the case in rheumatic and facial paralysis.

3. Motility may be entirely extinct, while muscular excitability for both kinds of currents is equal and weakened.

4. The muscles and their motor nerves have lost all contractility under influence of the will and of induced currents, while it is *increased* for voltaic currents. Observations give the following phenomena in such cases:

A—during absence of motility.—1. The contractility of voltaic currents is increased; a very feeble current, which would cause

no sign of contraction in healthy muscles, produces energetic contractions in the paralyzed muscles.

2. Voltaic excitability increases during the course of treatment, rapidly reaches its maximum and then diminishes.

3. Voltaic excitability is not always increased at the same time in all the branches of the paralyzed nerve. In the least excitable muscles and nerve branches it increases and diminishes more slowly than in those which are more so.

4. The contractility produced by voltaic current is less rapid for the paralyzed muscles than for the healthy ones.

5. The contraction often occurs only by direct irritation of the muscles, and not by irritation of the corresponding motor nerve.

6. The voltaic excitability is gradually lost with the return of voluntary movements, whilst the faradic excitability gradually returns. (Schulz and Ziemssen).

7. The voltaic excitability is gradually lost with return of motility, but faradic excitability remains extinct despite restoration of motility. The excitability for all kinds of currents becomes normal slowly, and in like proportion, after several months or years.

8. Faradic excitability, although reappearing, remains more feeble than for corresponding muscles of healthy side.

9. Voltaic excitability remains the same, and faradic excitability never returns.

These conclusions are true for rheumatic and traumatic paralysis, and also for diphtheritic and cerebro-spinal fever and some other post-febrile paralytic states.

The same differences between voltaic and faradic currents has been observed by innumerable observers since Ziemssen, Eulenberg, Legros and Onimus first noted them in cases of muscular degeneration, and in lead palsy, where the voltaic current (15 elements) caused no contraction of the healthy muscles, but only of the common extensors of the fingers, extensor proprius of index finger and the extensors of the throat, that is to say, those muscles in which faradic currents caused no contraction.

•ARTIFICIAL FOODS FOR INFANTS.

BY AMAND N. RAVOLD, M. D., *Assistant to Department for Diseases of Children, St. Louis Post Graduate School of Medicine.*

[*Read before the St. Louis Medico-Chirurgical Society, Dec, 28, 1886.*]

I DESIRE to present to the society a list of cases taken from the books of Dr. Charles E. Briggs' Clinic for Children of the St. Louis Post-Graduate School of Medicine, with some remarks on artificial foods in general. The large number of deaths of children in their first months has been one of the opprobria of medicine; while our clinics have led us to believe that health in American communities is better than that in European communities, of which we have reported statistics, yet we, too, lose a large number of children in early life.

Henoch, in his work on the Diseases of Children, 1882, says. "In my services in the Royal Charité, 3804 children were received 1874-78, of whom 2227 were under, and 1577 over two years of age. Of the former 1526, *i. e.*, about 70 per cent died, and only 277, or about 19 per cent of the latter. Of 1384 who had passed the sixth month, 1117 died, or about 80 per cent. Statistics prove unmistakably that the mortality of children is greatest in their first months of life, while that of the first year more than twice exceeds that of later years. It gradually diminishes after the second year, and assumes the normal proportions after the fifth year. The total number of deaths recorded as occurring in the United States during the census year 1880, is 756,893. Of these, 175,266 were of children under two years of age, 23.15 per cent, and 302,806, 40.6 per cent, were under five years. The Registrar General's report of the United Kingdom for 1885 shows 522,123 deaths, 123,317, 23.4 per cent (as large as ours under two years) were under one year of age. In the elaborate report of the Health Commissioner of this city for 1885-86, Dr. Gib. W. Carson, Clerk of the Board of Health, has tabulated the number of deaths for the last 20 years, ending 1886. The number of deaths under five years of age varies from 41.3 to 54.8 per cent of total deaths. For the year just ended, the total number of deaths was 8,268: 3,434 were under

five years of age, nearly 42 per cent. For the years 1884-85-86, the number of deaths from diarrheal diseases under five years of age was 582, 441, and 334 respectively, divided as follows.

1st Quarter ending March 31.	Total deaths.	Diarrheal diseases.	Per cent.
1884.....	1861.....	18.....	Under 1
1885.....	1754.....	4.....	"
1886.....	1735.....	1.....	"
2nd Quarter ending June 30.	Total deaths.	Diarrheal diseases.	Per cent.
1884.....	1748.....	134.....	7.66
1885.....	1742.....	99.....	5.68
1886.....	1797.....	93.....	5.17
3rd Quarter ending Sept. 30.	Total deaths.	Diarrheal diseases.	Per cent.
1884.....	2266.....	357.....	15.75
1885.....	2253.....	311.....	13.80
1886.....	2333.....	218.....	9.34
4th Quarter ending Dec 31.	Total deaths.	Diarrheal diseases.	Per cent.
1884.....	2012.....	73.....	3.62
1885.....	1741.....	27.....	1.55
1886.....	2203.....	22.....	Under 1

Although the percentage above given is large, it does not include all it should, as many deaths that occur from improper feeding, etc., are classed under inanition, general debility, enteritis, gastro-enteritis, etc. We consequently see from these statistics that the per cent of deaths during summer months, when diseases of the digestive organs prevail, is much greater than during other months when other diseases are prevalent.

While a large number must have died from inherited incapacity for living, it is the general belief, in which I agree, that the large majority of the deaths is owing to faults in nutrition. In the clinic from which these cases were taken, this view is acted upon, and as much attention is paid to nutrition as to medication.

When the physician is called upon to treat an infant that is not receiving sufficient nutrition, either from non-nutritious, or insufficient milk, depressed nipple, etc., or the mother has died in giving it birth, he is confronted with a very difficult and serious problem.

If the parents are able to pay for and secure the services of a young, good-tempered, healthy wet-nurse, the problem is comparatively easy of solution.

In the majority of cases in the cities, however, the people have

not the wealth, conveniences, etc., cannot procure trustworthy wet-nurses, or will not tolerate wet-nurses in the house; then recourse to artificial food is imperative, and the resources of the physician are often severely taxed. If he is young and appeals to an elder brother in the profession, he will probably receive some such advice as this: "Each infant is a law unto itself, and the skilful physician finds that law and acts accordingly." I was thus advised, and marvelled much. I afterwards found these words in the heart of a good book.

There are two great classes of foods before the profession, the manufactured, whose number is legion, and those foods recommended by physicians eminent in the treatment of children, in which there seems to be as much diversity as numbers in the former. The manufactured foods have been classified by Prof. Leeds, of Stevens' School of Technology, in a lecture delivered by invitation before the College of Physicians and Surgeons, of Philadelphia, printed in *Medical News*, July 21, 1883, under three heads:

I. Farinaceous, wheat previously prepared by baking, including: 1. Blair's prepared wheat food; 2. Hubbel's prepared wheat food; 3. Imperial Granum; 4. Ridge's food: mixtures of various cereals; 5. "A. B. C.," Cream Cereal; 6. "A. B. C.," Cereal Milk; 7. Robinson's patent barley.

These foods are intended as attenuants to good cow's milk, to prevent the formation of a firm curd in the stomach of the infant by the mechanical interposition of starch particles. Although these foods occasionally agree, they should never be fed to infants under nine months of age, as the salivary and pancreatic secretions are too feeble to digest the large amount of starch contained in them.

II. Liebig's Foods, including: 1. Mellin's, 2. Hawley's, 3. Horlick's, 4. Baby Sup, No. 1, 5. Baby Sup, No. 2, and others.

In these foods the starch, by careful heating and manipulations of the manufacturers, or by the addition of malt flour, has been converted into dextrine and grape sugar. Nearly all, on examination, are found to contain more or less starch, and should be used with great care in children under nine months of age.

I must confess a partiality to Horlick's and Mellin's foods, fed

to infants of several months old, where the mothers are over-worked and secreting insufficient milk.

III. Milk foods, including: Nestle's, Anglo-Swiss, American Swiss, and Gerber's. All of these milk foods consist of cereals specially prepared, in combination with condensed milk. They contain free starch, and much cane sugar is used in the preservation of the milk; this, especially in summer, causes indigestion, and diarrheal disorders.

Efforts have been made to so modify good cow's milk (asses', goat's and mare's milk are practicably unattainable), as to make it resemble in composition and assimilability human milk. The advance has been slow, and many have contributed their mite, until to-day we have nearly reached the goal. The great stumbling block has been the casein contained in cow's milk. The coagulum of cow's milk is not only greater in quantity, but firmer in consistency than that of woman's milk. To make the former resemble the latter, which coagulates in small flocculent masses, easily acted upon by the secretions of the alimentary canal, something must be added, either to separate the coagulum mechanically, or modify it chemically. In the former method a number of substances are used, principally starch, gum, sugar and gelatine. In the latter the experience of the profession is that lime water is the best. "The similarity of results in the chemical examination of cow's milk makes it probable that we are near its exact composition." With human milk, however, the results vary almost as much as there are numbers of analyses.

Dr. Arthur V. Meigs, son of J. Forsyth Meigs, of Philadelphia, in his work on "Milk Analysis and Infant Feeding," review in *COURIER*, May, 1886, shows that although chemists in the analysis of human milk agree in the amount of water, fat and ash, the great difference is in the amount of casein and milk sugar. "Where the milk sugar is large in amount the casein is small, and *vice versa* where the milk sugar is small in amount the casein is large." Singular to say, when the amount of casein and milk sugar is added together in each case, the result is nearly the same, showing that the rub comes in the separation of the casein and milk sugar.

Dr. Meigs, after elaborate and painstaking investigations and analyses of woman's milk, proves, I think conclusively, that the amount of casein is about one per cent, and that in previous analyses a too large per cent of casein has invariably been reported. The difference between cow's and woman's milk is that the former contains more casein and ash, and less milk sugar and fat; that woman's milk is of alkaline reaction, the casein coagulating in flocculi, while cow's milk is generally acid, especially so in cities, and the casein coagulates in a heavy curd. During the summers of 1878, '79 and '80, I lived on my father's farm, and milked daily three to five good cows. I made a practice of testing the milk as soon as drawn, and came to the following conclusions:

That while the cattle were ranging and eating succulent grasses, and not over-heated by driving, or sexually excited, the milk was invariably alkaline.

When confined to the barn lot, or stall-fed with dry foods, because of dried up pastures or roaming tendencies in the fall, when grass is plentiful but not nutritious, and corn-fields are convenient and inviting, the milk was acid.

During sexual excitement milk was scanty in flow and very acid, frequently causing indigestion, "scours" in the young calf.

Since December 11, 1886, I have been testing the milk, morning and evening, of a stall-fed grade Jersey cow kept in our stable here in the city. It is always decidedly acid.

Dr. Ph. Beedert, of Stuttgart, in a recent work, says: "That after numerous experiments, I have come to the conclusion that the amount of casein which an infant food should contain is one per cent. The fat and sugar are in no wise different from that contained in human milk." He maintains, however, that the casein of cow's and human milk is different chemically and physiologically, but that cow's casein treated with an alkali is in many respects much more like human casein than the original cow casein.

Lehman (Physiological Chemistry) says: "I believe that the jelly-like coagula of woman's milk are more dependent on the alkaline state of the fluid than on any peculiarity of the casein; at all events, I have found that woman's milk when acid yields a

much thicker coagulum than when alkaline, and cow's milk when alkaline a much looser coagulum than when acid—facts of the highest interest and value in relation to dietetics.

Dr. Meigs, following his convictions as to the amount of casein contained in human milk, and keeping the experience of the profession well in view, has constructed a food that is nearly identical in composition with human milk. (See Table I.)

TABLE I.

	Human, mean composit'n from milk of 43 wo- men.	Artificial food, cream, 10. c.c.; milk, 5. c.c.; lime water, 10. c.c.; sugar 2.2 grams, cream contained 12.470 per cent. fat.	Artificial food cream 2 tablespoonfuls; milk, 1 do.; lime- water, 2 do.; sugar water, 3 do.; cream contained 17.129 per cent. of fat. Each tablespoon- ful was 20. c.c. Sugar water 17 ³ / ₄ , drachms to pint.	Cows milk.	Cows milk.
Water....	87.163	88.357	87.639	88.549	87.012
Fat.....	4.283	3.506	4.765	3.310	4.209
Casein....	1.046	1.214	1.115	2.792	3.252
Sugar....	7.407	6.669	6.264	4.898	5.000
Ash.....	.101	.254	.217	.451	.527
Total...	100.000	100.000	100.000	100.000	100.000
Error...		.009 per cent. loss.	.029 per cent. excess.	.029 per cent. in excess.	.058 per cent. loss.

Last summer, in looking over the field of infant foods for the purpose of adopting a standard food for the children's clinic of the St. Louis Post Graduate School of Medicine, that should combine the qualities of cheapness, simplicity of preparation and approach as nearly as possible to woman's milk in composition and assimilability, Dr. Briggs decided to try this food, as it was theoretically the best. In this clinic 576 patients were treated

TABLE II.

NAME	AGE	FED.	DISEASE.	TIME SICK.	TIME IMPROVING
R. G.	6 weeks.	Mothers milk insufficient.	Diarrhea.	3 weeks.	1 week.
E. H.	7 weeks.	Cows milk diluted.	do	2 weeks.	2 weeks.
P. H.	4 months.	Bottle fed " "	do	2 months.	3 weeks.
C. S.	5 do	Condensed milk.	Congenital debility.	Since birth.	Died.
J. G.	6 do	Nestle's food.	Stomatitis, diarrhea.	3 weeks.	1 week.
A. S.	6 do	Milk, oatmeal, etc.	Cholera infantum.	3 days.	2 weeks.
E. H.	6 do	Condensed milk.	Stomatitis, enterocolitis.	3 months.	Died.
R. M.	8 do	Mothers milk, table diet.	Diarrhea.	3 weeks.	1 weeks.
S. C.	10 do	do do do	do	3 weeks.	2 weeks.
I. T.	10 do	Weaned, condensed milk.	do	3 weeks.	1 week.
W. D.	11 do	Condensed milk, grits, etc.	do	6 weeks.	3 weeks.
J. M.	12 do	Weaned 3 weeks, rice, oatmeal, water, etc.	do	2 weeks.	2 weeks.
B. H.	12 do	Mother's milk, table diet.	do	3 weeks.	2 weeks.
W. R.	13 do	Weaned, table diet.	do	2 weeks.	3 weeks.
L. G.	14 do	do do	do	10 days.	1 week.
A. S.	15 do	do do	do	3 weeks.	3 weeks.
A. S.	16 do	do do	Enterocolitis.	10 days.	6 weeks.
M. C.	17 do	Mother's milk, table diet.	Diarrhea.	2 weeks.	1 week.
Ella H.	18 do	Weaned, table diet.	do	2 weeks.	2 weeks.
K. M.	20 do	do do	do	3 weeks.	2 weeks.
W. C.	20 do	do do	do	1 week.	2 weeks.
G. S.	21 do	do do	do	1 week.	1 week.
F. H.	2 years.	do do	do	2 weeks.	3 weeks.

during the year ending January 1, 1887. We have used the food since last June in 39 of these cases, most of which were under one year of age. Some of these could not be found when looked for; they had either misinformed us as to their place of residence or moved to distant parts of the city. In most of the cases we have a fairly perfect record. (See Table II.)

I saw about twelve of the youngest in their homes two or three months after treatment, and, considering their surroundings, they were all in a fair condition.

These children were sick, and had been so from one week to three months. Two died, one of congenital debility, and the other of entero-colitis. Some, where the instructions were implicitly obeyed, and the treatment carefully carried out, improved immediately; others lagged along for two or three weeks, generally getting rid of their diarrheas and gaining weight with the coming of cooler weather. The preliminary treatment in all these cases was a purge of castor oil, or equal parts of pulv. rhei and soda bicarbonate in a simple elixir, so as to clean out the alimentary canal of all undigested or indigestible food. The nursing bottle, if one is used, must be large mouthed and conical in shape, and contain no rubber tubing, the nipple to be of rubber and reversible, and both nipple and bottle to be thoroughly cleaned after each nursing. Child when fed to be in a semi-recumbent position, and in the mother's arms if possible. Our instructions to mothers are to take two tablespoonfuls of cream, one of milk, two of lime-water and three of water, and to add the milk-sugar dry, one teaspoonful.

We found that the milk-sugar-water, prepared as Dr. Meigs suggests, $17\frac{1}{2}$ drams milk-sugar added to one pint of water, kept in a cool place, and three tablespoonfuls used when needed, would sour in hot weather where facilities for keeping it cool were not of the best, that poor people are reluctant about throwing anything away that cost hard-earned money, and will frequently give the sour sugar-water and trust to luck.

As most of the lime-water sold in shops is made of hydrant and not distilled water, it frequently becomes foul by standing: consequently we instruct mothers how to make it, so as to always have it fresh and sweet. In the beginning, only the above

amount is administered to the child four or five times a day for the first three or four days, or until the stomach has had a rest, and then, according to the age of the child, the amount is brought up to the proper allowance. •

The vexed question of milk supply is constantly brought before us; our recommendations have always been to buy milk from some of the large firms, that receive their supplies from the country, and use proper care in the inspection of milk supplied to customers.

2806 Morgan street.

TEN THOUSAND SKULLS OF THE SEVENTH CENTURY.

BY C. F. DIGHT, M. D., *Professor of Anatomy and Physiology in the American Medical College in Beirut, Syria.*

DURING a recent visit to Jerusalem, Palestine, I had an opportunity to examine and take the measurements of a large and rare collection of human skulls, which are stored away in the old monastery of Mar Saba, a distance of three hours horse-back ride down the Kedron Valley, midway between Jerusalem and the Dead Sea.

The results of this examination are such as are believed to be of interest, and for this reason I am led to furnish them for publication in your journal.

These skulls are said to be those of the early Christian Monks, who, in the fifth and sixth centuries, lived in great numbers along the Kedron Valley and in and about Jerusalem, who, in A. D. 614, were massacred by the Persians when they invaded Syria and Palestine under their leader, Chosroes. They are therefore Caucasian skulls, and probably those of the ancient Greeks and Romans, which were gathered up and stored here to the number (they say) of 10,000.

Such being the size and antiquity of this collection, it can hardly fail of being a valuable one. The great traveler and writer, H. B. Tristram, once on looking at it said: "It is cer-

tainly a collection the Anthropological Society might envy, and out of which they might select as many types as it suited their fancy to create."

The measurements which I am about to give, are the only ones, so far as I have been able to ascertain, that have ever been taken of any of these skulls. Omitting as far as possible anatomical terms, the five measurements which I took are as follows:

1. The horizontal circumference, learned by measuring with a tape the distance from the middle of the lower part of the forehead, around the largest part of the occiput to the starting point.

2. The naso-occipital length, or the distance from just above the root of the nose, back over the top of the head to the external occipital protuberance.

3. The height, or the vertical distance from the opening of the ear to the level of the centre of the top of the head.

4. The width, or the greatest distance through the head from side to side, above the level of the cheek bones.

5. The cranial capacity, learned by closing the little openings at the base of the skull, then filling its interior with mustard seeds, which are then poured out and measured in a graduated vessel.

Of the 91 skulls which I measured, the largest one gave a horizontal circumference of 22.45 inches, (570 millimetres) which is $\frac{3}{4}$ of an inch above the average for all races. This same skull gave a cranial capacity of 113.6 cubic inches, which is 28.6 cubic inches greater than the average for all races, and 18.1 greater than the average for the Caucasian race (whose cranial capacity exceeds all other races) and but 4.4 cubic inches less than the capacity of Cuvier's skull, the largest on record. Its width was also the greatest, being 6.38 inches (162 mm.) Its naso-occipital length, 13.39 inches, (340 mm.) was reached by but one other, and its height was 4.72 inches (120 mm.).

The smallest of the 91 skulls gave the smallest horizontal circumference, 18.91 inches, (480 mm.) and a cranial capacity, of 76.6 cubic inches, which is 18.9 cubic inches less than the average Caucasian capacity. Its height was the least, being 3.97 inches, (101 mm.) its width 5.27 inches, (134 mm.) and its naso-

occipital length 11.42 inches (290 mm.) All the organs of this brain had been very small.

The one giving the greatest height, 5.2 inches, (132 mm.) gave a horizontal circumference 20.68 inches, (525 mm.) width, 5.63 inches, (143 mm.) and naso-occipital length of 11.85 inches (301 mm.)

The one giving the least width, 4.72 inches, (120 mm.) gave a horizontal circumference of 20.48 inches, (520 mm.) a naso-occipital length of 12.21 inches, (310 mm.) and height of 4.45 inches, (113 mm.) being narrow and low, but long from before backwards.

The one giving the shortest naso-occipital length, 8.94 inches, (227 mm.) gave a horizontal circumference of 19.7 inches, (500 mm.) height, 4.37 inches, (111 mm.) and width of 4.92 inches (125 mm.)

The average measurements of the 91 skulls are found to be as follows:

Average horizontal circumference,	-	-	-	19.98 in. (507.2 mm.)
Average height,	-	-	-	4.51 in. (114.5 mm.)
Average width,	-	-	-	5.57 in. (141.4 mm.)
Average naso-occipital length,	-	-	-	11.84 in. (300.6 mm.)

The average cranial capacity of the 19 whose capacities were measured, was 91.8 cubic inches.

Comparing the average measurements of these skulls with the *present* average measurements of skulls of the same race, (the Caucasian) and if the above measurements are taken as the average of the race at that time, (and persons of their rank at that time should have skulls above rather than below the average) it follows:

1. That ours, the Caucasian skull, has, during the past thirteen or fourteen centuries, increased in horizontal circumference 1.72 inches, and to a less extent in height, and not at all in width, and has gained in cranial capacity 3.7 cubic inches.

2. From the fact that our skulls have not gained in width, it follows that this gain in capacity of 3.7 cubic inches is due to increase in its height and length, which (bearing in mind the plan of development of the brain) implies an increase in size of the

upper and the anterior parts of the brain; the exact parts which, on *a priori* grounds, we should expect to increase by education and advancing civilization, since these parts of the brain specially preside over the moral and intellectual functions; and

3. The lower portions of the brain being the parts which specially preside over the selfish propensities or the so-called inferior functions, and which give breadth to the head, being called into activity less as education and civilization advance, have failed to grow as rapidly as other and more exercised portions of the brain; hence the non-increase in width of our skulls.

It need scarcely be said that these were adult skulls, and probably all males, and that among this large collection, numerous abnormalities and peculiarities, such as absorption and perforation of both tables of the skull by growth and pressure of the Pacchionian bodies, non-union of the two halves of the frontal bone in the usual way, leaving a persistent frontal suture, marked difference in size of the two halves of the skull, the left half usually being the larger, and Wormian bones in different localities. A few presented spots which appear sometime to have been burned, and the knife shows these places to be charred.

Many of them yet contain a considerable number of teeth, which have been sound at death, but are now brittle because of their great age. Others present fractures at different places, and those which are broken open show internal depressions at points corresponding to external elevations, and *vice versa*, showing that the inside of the skull corresponds in shape to the outside, and that consequently, the shape of the brain may, as a rule, be determined by the shape of the head, as certainly as the shape of a tree may be known by the shape of the bark which covers it.

[Since this paper was in type we find that the same has appeared in the *Journal of the American Medical Association*, a copy having been sent, doubtless, to that journal at the same time as to the *Courier*. Our readers will, we believe, accept this explanation of the appearance here of an article as original which possibly some may have already seen in the journal mentioned, and the editor of that journal will accept our statement that the manuscript was received by us direct from the author without any information that a duplicate copy had been sent elsewhere. —ED. COURIER.]

CASES FROM PRACTICE.

CASES OF LAPAROTOMY.

BY N. B. CARSON, M. D., ST. LOUIS.

[*Read before the St. Louis Medico-Chirurgical Society, Nov. 16, 1886.*]

Mrs. ———, æt. 36, American, widow, sent for me on account of a painful tumor situated in the right side. She told me that for two weeks she had had a pain which had caused her much suffering and that she had felt at different times a tumor that moved freely and was not always to be found. When first noticed the growth was about the size of a small orange. This had increased until it had attained the size of the double fists when I saw it first. At that time it was still freely movable and very painful upon even slight manipulation. The patient was a delicate nervous woman suffering more or less from asthma; appetite poor, secretions regular, she suffered from metrorrhagia. From the size, feel and shape of the body it was supposed to be a floating kidney, and an operation advised against. Dr. Gregory saw the case in consultation and concurred in the diagnosis, etc. The patient had been urging an operation, and when Dr. Gregory saw her with me and advised against it the effect was distressing. She insisted upon having the abdomen opened and the tumor removed, as she declared it was torture to live as she was. After considering the case carefully, Dr. Gregory concurring, I told her I would make an exploratory operation and if the tumor was ovarian would take it away. I was led to this by a case cited by S. Wells in his work on Ovarian Tumors, wherein ovarian tumor was mistaken for a floating kidney, and an operation refused the patient. Some years later the other ovary became diseased, the abdomen was opened, and an ovarian tumor with a long pedicle found instead of a floating kidney. Our diagnosis was confirmed upon opening the cavity. Those present being satisfied as to the nature of the tumor the abdomen was closed, and the operation concluded. The patient made a good recovery and

from that day to this has had little or no trouble from the part. Upon careful examination it can be made out but it seems to be fixed not firmly but enough to give little or no annoyance.

The following case, one of ovarian tumor, is interesting on account of its having two pedicles. Mrs. ———, æt. 37, German, married, came to the hospital to be operated upon. Had been always rather delicate and had had menstrual troubles from the first. An examination of the abdomen showed a large, irregular tumor filling the cavity surrounded by more or less fluid. The cavity being opened a large ovarian tumor presented with general adhesions, the abdominal cavity containing much fluid. The adhesions being separated the tumor was found to spring from both ovaries and had evidently been originally two separate and distinct tumors, but had subsequently united to form one large tumor with two pedicles. This patient died on the second day following the operation, of septicemia. When I closed the abdomen in this case I never had felt better satisfied with a toilet than here, yet in two days the record was closed.

CASE III.—This case came into the hospital with a large, solid tumor almost filling the abdomen. She gave a history of malarial fever. She was a small, thin, sallow woman, weighing perhaps a hundred pounds. The tumor was irregular in outline, solid to the feel and slightly movable, situated mostly to the right of the median line. Circumference of abdomen 34 inches, percussion sounds normal except over tumor and where the spleen should have been. An exploratory incision was made and the tumor found to be an extraordinarily enlarged spleen attached to the lower end of the spinal column by a short dense pedicle traversed by many large vessels, some of them as large as the little finger. She died on the fourth day.

CASE IV.—The patient from whom this specimen was taken, was stabbed about thirty-six hours before she entered the hospital, with a small knife having a long, narrow blade. The blade entered the abdomen about an inch and a half below the margin of the ribs, and about two and a half inches to the right of the median line. There was much shock from the injury from which she readily recovered. Her condition at the time of entrance to hospital was good. From the history of the case and the situation of the wound it was supposed the intestines had been penetrated. Upon opening the abdomen, instead of fecal matter, bile was found

covering the intestines and peritoneum, and bloody serum filling the cavity. The peritoneum was beginning to inflame. Upon the discovery of bile it was supposed the gall-bladder had been opened instead of the intestines. This, however, proved not to be the case, but the lower margin of the liver had been penetrated and the further progress of the knife stopped by the stone which you will observe fills the gall-bladder. After thoroughly cleansing the abdomen, and dusting it with iodoform, it was closed, a glass drainage tube having been introduced. The patient did well until the third day, when symptoms of iodoform poisoning set in and she went from bad to worse until she died on the morning of the fifth day.

The next case that I will refer to is one corresponding in some respects to the one cited by Dr. Tuholske at one of the previous meetings. A woman, delicate, 40 years of age, unmarried, came to the hospital to be operated upon. Upon opening the abdomen we found a large tumor completely filling the cavity, more or less adherent, and whenever touched the cyst would rupture and pour out a large quantity of colloid matter into the cavity. The operation was proceeded with, the tumor removed and the cavity cleansed simply by sponges, no iodoform, no antiseptic more than perfect cleanliness, hot water being used with little or no carbolic acid, and the patient made a most excellent recovery. The temperature at no time reaching 100° , 99.4° , being the highest temperature from the time of the operation until the patient was discharged fifteen days after the operation. We have quite a number of cases presenting the same history that have been operated upon in the same way, no antiseptics being used, and most of them leave the hospital in from fourteen to eighteen days.

The next case is one of considerable interest. I was called two weeks ago to see a man who had been shot, and found a wound entering to the left of the umbilicus, and a little below, passing through the superficial tissue until it reached the sheath of the rectus muscle through which it passed, leaving a linear opening as clean as if it had been made by a sharp knife. After passing the sheath of the rectus it continued its course directly through the abdominal cavity, making such an opening as would be expected from a ball of forty-four calibre. After entering the cavity the ball was deflected backwards, upwards and outwards, and in its course penetrated the intestines eight times. Upon opening the abdomen the

intestines that came out of the wound were not injured, and showed no evidence of the bullet having touched them, so that the appearance of the first few coils that were pulled out led us to fear that our diagnosis had been mistaken, and that the intestines had not been perforated. One interesting feature of this case, however, is the sounds presented by percussion; to the right of the median line and extending over the course taken by the ball, the percussion sounds were dull, while over the rest of the abdomen these percussion sounds were slightly exaggerated. In some places the bullet had passed entirely through the intestine without doing much damage. Here the edges of the wound were trimmed and the surfaces brought together by a Lembert suture. In one place the bullet had entered the wall of the intestine, and traversed its cavity and made its exit through the mesentery about an inch distant. Had to resect an inch and-a-half or two inches. The ends were brought together by a Lembert suture. An attempt was then made to search for the further progress of the bullet, but this was partially unsuccessful on account of the great thickness of the abdominal walls and the rigidity of the muscles. Although the patient was thoroughly under the influence of ether, and an incision had been made extending as far to the right as I was justified in making it, yet the parts were so rigid and the cavity so deep that it was impossible to make a satisfactory exploration. Patient stated before taking the ether, that he had been subject to an old and long lasting hernia, which however was not out at the time he was shot. This very materially complicated the operation, as several inches of the bowels were adherent to the abdominal wall, slanting from the internal ring obliquely upwards and outwards to the left. He lived three days after the operation. I was not able to complete the operation as satisfactorily as I wanted, not being able to thoroughly cleanse the cavity. I did the best in my power and introduced a drainage tube. For the first two days before his death the drainage of serum was about four ounces a day. The operation took between two-and-a-half and three hours. No post-mortem was allowed.

CASES OF NEURASTHENIA OR CHLOROSIS.

BY CHEVER BEVILL, M. D., WINFIELD, ARK., and F. R. FRY, M. D.,
ST. LOUIS.

The following case seems to be an obscure one. All the physicians in this part of the state are in doubt as to the nature of it. I send you a brief history to publish if you see fit. I would be glad also to hear an explanation of it.

Georgia F., æt. 13, of healthy parents, except that they are of a somewhat nervous constitution, was a healthy child until January, 1885, when she had an attack of fever, remittent (?). After recovering from the fever she gained in weight rapidly; she lost her customary activity, preferred to sit in the house and knit, would not go out to play with other children. In January, 1886, she was down three or four weeks with another attack of fever. After the fever left, she could not use her legs for some time. Her appetite was good, bowels constipated, urine scanty and high colored.

In May, 1886, she was brought to me in a reclining chair. On examination I found temperature, 100°, pulse, 136, respiration, 28. Eyes kept closed nearly all the time, 'face very large and rough from acne, which she has had for three years; very fleshy, weight, 84 pounds; walks very unsteadily, separating her feet eight to ten inches, and moves the whole side of her body as she makes a step; does not sleep well; craves water; has no enlargement of the thyroid gland; is very neurasthenic; cannot bear pressure over the bowels. There seemed to be hard places in the bowels, but there was too much tenderness for me to satisfy myself about this point. Great tenderness over the dorsal vertebræ.

Oct. 16, 1886. Saw patient at her home, as she could not stand being moved; moaning all the time; can stand on her feet but a few minutes at a time, and then has to be held; cannot take a step; more tender on the spine; eats little, weight 79 pounds. The mons Veneris is as well covered with hair as that of most adults; has also an excessive growth of hair over her whole body. The skin is of a bluish tinge and scaly. Her breasts are very large; she has never menstruated; she sleeps but little.

The editor having recently heard of a case very similar to the above, requested Dr. Frank R. Fry, St. Louis, who has charge of it, to furnish brief notes. They are as follows:

L. M. S., æt. 12, parents, especially father (and other members of his family) of a very nervous disposition. Prior to April, 1885, she had, for three years, frequently suffered with what was called by the family physician malarial fever, for which she had taken much quinine. The above date found her convalescent from an attack of fever, and unable to walk or stand. She insisted on remaining unmolested in bed, and kept her face covered with a handkerchief. She would lie all day without communicating with any one.

I first saw her in June, 1885. Her actions were somewhat hysterical, slight chorea, tenderness in dorsal and lumbar portions of the spine, excessive in some localities; distinct tenderness over the ovaries; some slight bloating of the abdomen; no paralysis, reactions to primary and secondary currents normal; skin reflexes possibly exaggerated, tendon reflexes normal, temperature normal. She could seldom get to sleep before 11 P. M.; was eating plenty, generally, for one lying in bed; tendency to constipation. She had never menstruated; she was wearing an apparatus put on by a surgeon to support the back; she was never taken from bed, there being an apparatus to raise and lower her, enabling her to attend to the calls of nature.

She has been constantly under my observation to the present time (Feb. 1887). All apparatus was gradually removed. She was taken out of bed, first to sit in an easy-chair, and then to walk across the floor with some one supporting her on each side. Every innovation in the way of increasing her activity was followed by a spell of depression, lasting from a day or two to a week or more, during which the heart beat would be feeble, the pupils dilated, unnatural perspiration, the temperature rising sometimes to 101°. Generally there were at these times mild hysterical manifestations, and she complained of much pain in the back and extremities. Inside of four months she was sitting up as much as six hours, and walking (assisted) five or ten minutes daily, and going to sleep at 9 P. M. Improvement has been very gradual. A trip to St. Paul by boat last summer did her much good. She does not yet walk unassisted. Of late she has shown an interest in her condition, and expresses a desire to get well soon. This is a good sign. There is an occasional short relapse into the old condition. The physical evidences of womanhood are manifested beyond what they generally are in one of her age. She has menstruated irregularly a few times during

the last year. I have tried to trace the variableness of her symptoms to variations in the times and amount of menstruation, but have failed to do so. She has recently been examined by an experienced lady physician without the discovery of any remarkable trouble of the womb, beyond some prolapsus and flexion. She has not suffered from dysmenorrhea.

[The above accounts of these cases are not full enough to justify any extended opinion. And even if they were, it would probably be difficult to tell what category to assign them to. There is an evident condition of what, for want of a better name, we call neurasthenia. This, we are told, is due to a chronic anemia of the nerve centres, especially those of the cord. Some authors would call these cases of chlorosis, but the use of this term does not explain these or any case to which it is applied.

The cause in both instances would seem to be the malarial attacks, coming at an age when the system is susceptible to noxious influences of all kinds. Back of this, though, is the special predisposition of these two patients, a neuropathic predisposition, without the presence of which cases of this kind would be impossible, but with which comes a retinue of symptoms, hysterical, lethargic, cataleptic, ecstatic, that horrify the doctor and curse the patient.

Ed.]

THE HUMAN RACE is neither as good as the optimist would believe it, nor as bad as the pessimist would make it. A large percentage of all error is due to ignorance and not to intention. But perplexing as is the search for truth, it is wisely ordained; for if the right and wise way were always plain, that important element of character called judgment would almost disappear.—*Mind in Nature*, Nov. 1886.

U. S. PENSIONERS.—From the last annual report of the Commissioner of Pensions we learn that there were at the close of the year 365,783 pensioners, classified as follows: 265,854 army invalids; 80,162 army widows, minor children and dependent relatives; 2,953 navy invalids; 1,878 navy widows, minor children and dependent relatives; 1,539 survivors of the war of 1812, and 13,397 widows of those who served in that war. The amount paid for pensions during the year was \$63,797,831.61.

EDITORIAL.

GASEOUS ENEMATA FOR TUBERCULOSIS OF THE AIR PASSAGES.

Among the therapeutic novelties introduced last year was that indicated in the heading of this article. In *L'Union Médicale*, December 18, '86, we find an interesting résumé of observations on this subject, from which we shall draw freely in presenting the subject for the consideration of our readers.

July 12, Dr. Bergeon, of Lyons, announced to the Academy of Sciences that he had adopted a new therapeutic method, consisting in injections of medicated gas into the rectum, the idea being derived from the result of the experiments of Claude Bernard, who showed that certain gases which caused serious toxic effects when inhaled, produced no such effects when injected into the rectum, although they were eliminated through the lungs; and, moreover, that carbonic acid gas, passed through a medicated solution, became charged with the active gaseous principle, and the two being eliminated together through the pulmonary alveoli, caused direct modifications there. The atmospheric air, which M. Bergeon first used as a vehicle for the medicinal substance, caused an irritation in the intestine which carbonic acid did not produce.

M. Bergeon having tried a number of reputed balsamic parasiticide or antiseptic substances in the treatment by this method of pulmonary complaints, finally selected sulphurous waters, natural or artificial, and sulphide of carbon, according to the case.

The mechanical arrangement, adopted in concert with Dr. Mauvel, consisted essentially in a flask for the generation of carbonic acid, by means of which an india rubber balloon was filled with the gas. The gas is then passed through a flask with two tubules containing a sulphurous solution, and is introduced into the rectum through a rubber tube and cannula.

With this apparatus M. Bergeon introduced into the rectum, twice in twenty-four hours, a current of four to five litres of carbonic acid gas which had passed through 250 to 500 grammes of sulphur water. He stated in his first communication that a few days after the commencement of the treatment he had found a diminution and even suppression of the cough, a modification both of the quantity and quality of the expectoration, a suppression of the sweats, an improvement of the general condition, and that even in confirmed phthisis.

Oct. 19. M. Cornil said in a note read to the Academy of Medicine, that the results obtained by this treatment were most satisfactory, the respiratory rhythm was favorably modified, hematosiis was more complete and more easy, and there was produced a sense of well being which accompanies increased strength at the same time as such phenomena as fever, sweating, etc., disappear.

M. Chautemesse also reported that in cases of severe asthma half an hour after the injection of carbonic acid gas charged with sulphide of carbon vapor, a very notable amelioration of the dyspnea occurred. The continuance of the treatment on the following day gave further relief, and the attacks did not occur while the treatment was continued. In nine patients, presenting general and local signs of pulmonary phthisis, great improvement was produced by this treatment, with very marked and rapid increase in weight. The cough and expectoration were greatly diminished, but the bacilli tuberculosis did not disappear from the sputa.

He found that it is necessary to be careful in the selection of gas injected. While hydrogen is well tolerated, turpentine, chlorine, ammonium, bromine and iodine produce an inflammation of the in-

testinal mucous membrane. The dose of sulphuretted hydrogen, too, must not be too large.

November 2, M. Bergeon announced that this mode of treatment was advantageous, not only for pulmonary phthisis, but also in simple inflammatory and tubercular laryngitis, ulcerations of the respiratory passages, pharyngitis, etc. He presented a phthisical patient who was voiceless by reason of the destruction of the vocal cords. He stated that this destruction had already occurred last January [1886] when the patient came under his care in the last stages of hereditary phthisis. The pains in the throat were so severe that the poor woman went nearly three days in succession without eating, in order to avoid the pain of deglutition.

In a few days the treatment by gaseous injections relieved the pains in the throat, and in two or three weeks caused the commencement of cicatrization of the ulcers which had continued perfect for eight months, in spite of the existence of enormous cavities in the lungs.

In spite of the loss of organic substances amounting to a half of the pulmonary parenchyma, this woman had journeyed from Lyons to Paris, had remained there a week, had repeatedly submitted to medical examination, and yet maintained that she had never in her life felt better.

M. Bergeon added that these injections seem to give no less valuable results in acute phthisis. Here, where the prognosis is always so grave, the gaseous injections cause a rapid lowering of the temperature and the frequency of pulsations, and cause in a few days the disappearance of the sweats and such a diminution of the cough and expectoration that the patients consider themselves cured after fifteen or twenty days of treatment. If the treatment is persisted in, there will be, if not the cure of the disease, at least the arrest of its evolution.

M. Bardet, of the Hospital Cochin, has devised an improved apparatus for administering these injections, and gives the following formulæ for developing the medicated gas:

SULPHURETTED SOLUTION.

R. Sulphide of sodium	- - - - -	10.
Distilled water,	- - - - - q.s. ad.	100.

A cubic centimetre of this liberates exactly 10 cc. of hydrogen sulphide.

SULPH-HYDROGEN SOLUTION.

R. Tartaric acid	- - - - -	25.
Salicylic acid,	- - - - -	1.
Distilled water,	- - - - - qs. ad.	100.

A cubic centimetre of this solution wholly displaces the hydrogen sulphide of 1 cc. of the preceding solution.

M. Paul had experimented with the sulphide of carbon, and was satisfied that this was not an eligible source for procuring the medicated gas for injections. Some of the laryngologists presents at the meeting, and who took part in the discussion, had not seen any improvement in their patients under this treatment.

It is apparent, therefore, that the value of this method of treatment is still undetermined, and further observations will be necessary in order to establish its worth and scope of action.

PAROXYSMAL HEMOGLOBINURIA.

Prof. R. Bruzelius gives in the *Nordiskt Medicinskt Arkiv* the history of three cases of this disease which he has had occasion to observe during long periods and at considerable intervals. These three cases are the only ones which have been reported in Sweden and in his extensive practice the author has met no other case of the kind. This disease appears, therefore, to be very rare in that country, as also in Norway where only two cases have been published. In his work on paroxysmal hemoglobinuria Lichtheim indicates that there had existed previously in Germany only two observations which could be referred to this disease. There have been some other cases observed since showing that it is not so rare in

this last country as was formerly believed. England has been specially rich in affections of this sort; but some have been published in France within a few years, and in Italy several cases have been cited by Murri. Lichtheim said that all the known cases then had been men, but this proves to be not so. In England it had already been shown that women had been affected with this disease, and the first case which M. Bruzelius had to treat was that of a woman. The disease spares no age. It has been met in an infant of two years, and one of the patients observed by the author was more than 10 years old when he felt the first attack of hemoglobinuria.

The first case described by M. Bruzelius is that of a woman who at the age of 27 years for the first time felt the effect of the disease in that after having been out doors in a cold time she was seized with light chills, pains in the sacral region, itching of the skin and urticaria. The attacks recurred the four following years whenever she was exposed to cold, but it was not until four years later that she had the first fully characterized attack, with chill, urticaria, icteric skin and urine charged with hemoglobin. She then had similar crises whenever she was exposed to cold, but the intensity of these crises was in direct relation with the intensity of the chill.

The patient presented a remarkable sensibility to even partial chillings. For instance, when she held her hand for some minutes against the cold side of the window in a room otherwise well warmed, the urticaria appeared on that hand with prickling and itching. M. Bruzelius gives a detailed account of the attacks of hemoglobinuria. The violent attacks were accompanied with chill, elevation of temperature (39.5° C. [103° F.] in the rectum), sweats, pains in the sacral region, urticaria, icterus, micturition of dark-colored urine, containing albumen, hemoglobin and cylinders, but no blood corpuscles. At the end of three to eight hours the fever had disappeared and the urine little by little resumed its normal condition. There occurred also more benign attacks with

urine containing hemoglobin, urticaria and elevation of temperature (38.2° C., 100.7° F.) and occasions when the urine was slightly albuminous, but contained no hemoglobin (spectroscopic examination). The microscopic examination of the blood in the attacks of hemoglobinuria discovered no modification indicating the destruction of blood corpuscles, while the spectroscopic examination of the blood plasma showed evidently on the contrary that this last contained hemoglobin.

In March, 1886, twelve years after the first attack, M. Berzelius saw the patient again. She had not had a pronounced attack for three years, thanks to the fact that she had sedulously avoided exposing herself to chilling; but the sensitiveness to chilling of the body persisted to such a point that after a short exposure to the cold the urticaria and the itching of the skin returned.

In other respects she offered the appearance of health.

The second case was that of a man of 52 years, who five years previously had been seized with hemoglobinuria after an exposure to cold air, and who for several years had been subject to such attacks when exposed to chilling. A great number of remedies was tried, but in vain; the disease continued without modification for eight years until the death of the subject, due to fatty degeneration of the heart. It was impossible to discover any traces of syphilis.

The third case was that of a man of 71 years, who suffered from this disease for two years. He died of acute pneumonia.

M. Bruzelius described in detail the symptoms of the disease, and showed that everything tends to prove that this is a disease of the blood, where destruction of the blood corpuscles is effected in the organs of circulation, and not only in the kidneys, as Rosenbach has believed. The most direct cause of hemoglobinuria in these three cases has been solely chilling of the body, but other observers have seen it provoked also by bodily fatigue (in one case by marching only, not by other forms of muscular exertion). Murri and Schumacher regarded syphilis as the true cause of this

disease. One of our author's cases presented symptoms of syphilis, the other two not the least signs.

TREATMENT OF DIABETES MELLITUS.

Dr. Robert Saundby gives in the *Practitioner* for December, 1886, the results of much careful study and observation in the treatment of diabetes mellitus.

He remarks first that there are two distinct types of diabetes, which differ materially as to their amenability to treatment. The distinction which he makes is between those cases which occur in patients under 45 years and those over that age. The latter class he has found to be much the more favorable, the disease in elderly persons (over 45 years), being eminently curable and in most cases absolutely controlled by attention to diet.

In the treatment of diabetes he aims to secure the following objects:

1. To relieve the urgent and distressing thirst.
2. To diminish the quantity of urinary water.
3. To restore the body-weight to the normal standard.
4. To remove, if possible, all traces of sugar from the urine.

The urgent thirst and the necessity for frequent micturition are two symptoms of which the patients complain most loudly. The first distresses them constantly, and the latter renders continuous sleep impossible. The most valuable indication of successful treatment Dr. Saundby considers to be the improvement of general nutrition as evidenced by recovery of weight. He makes it a point to have his patients weighed when they first come under treatment and afterward once a week in order to determine improvement in condition or the contrary.

The fundamental elements of diet for a diabetic patient are lean meat, green vegetables and gluten bread. The meats he allows to be eaten cold or hot, and to be cooked in various ways (not fried) but prefers that they should be fresh though permitting a portion to be salted or smoked.

He has tried the skim-milk diet and does not favor it as an exclusive diet, though he encourages the use of milk as a part of the dietary for his patients.

A small amount of fat of meat, butter or cream he has not found to increase the sugar, and it makes a valuable addition to the diet. Where there is emaciation, he give a tea-spoonful of cod-liver oil three times a day with distinct advantage.

As a substitute for sugar he has lately employed with satisfaction the new carbon compound called saccharin, which passes unchanged through the body but is intensely sweet. The addition of a little alcohol renders it more soluble than it is in water alone. In the absence of this glycerine may be used for sweetening.

The general effect of these dietetic regulations is to diminish the urine 30 to 50 per cent, and the thirst as well, and to effect an increase of weight and strength.

As to drink, he would make no attempt to limit the quantity. He favors the use of the alkaline mineral waters, as Vichy, Carlsbad, etc., prescribing the use of a bottle a day of this water and in addition distilled water *ad libitum*.

Finding that diabetics are almost invariably constipated, whatever their statement in regard to it, he generally gives a purgative twice a week, avoiding, of course, such a remedy as the compound liquorice powder which contains sugar.

As to medication, he has come to the conclusion that opium is the only trustworthy drug in the treatment of diabetes, though he has tried those others which have been most highly lauded, viz., codeine, arsenite of bromine, salicylate of sodium, etc.

M. Coignard states in *L'Union Medicale*, Nov. 20, 1886, that for some six years he has allowed diabetic patients to substitute for the gluten bread ordinarily prescribed as a part of their diet, potatoes either boiled or in the form of a purée. He was led to do this not by chemical analysis of the two articles of food but as a matter of clinical experience, on account of the extreme dislike patients soon acquire for the gluten bread, and the loss of appetite

for other food which accompanies this. He thought, in allowing the use of potatoes in limited amount, he would gain as much as by the use of gluten bread, and at the same time would preserve the appetite.

Experience confirmed this opinion and aroused his interest as to the relative amount of sugar producing material to be found in the two articles and also as to the amount contained in toasted bread crusts which are commonly recommended for the use of diabetics.

At his instance M. Bretet carried out a series of experiments, the results of which show:

1. That the aliments which in equal weights furnish the largest amount of sugar are the very ones which patients substitute readily for ordinary bread, viz., toasted bread-crusts and rebaked bread;
2. That potatoes furnish as a rule less sugar than does gluten bread.

From these chemical investigations and clinical experiences M. Coignard concludes that the use of gluten bread as an adjuvant in the dietetic treatment of diabetes is of very questionable advantage and sometimes is positively injurious.

PLURALITY OF URINARY ALBUMENS.

M. P. Lucas-Championnière in the December issue of the *Journal de Médecine et de Chirurgie Pratiques* calls attention to some facts in the study of albuminuria which, we believe, are often overlooked by physicians in their examination of urine.

Observing that it is now known, that the albumen which is found in the urine is not single, that its constitution varies and that the presence of these different forms of albumen may imply also a different prognosis, he quotes as follows from the recent works of M. Jaccoud:

We may say today, that there are three kinds of albumin to consider in pathological urine.

First.—Serine: this albumin is identical with that of the serum of the blood: it is the albumin most distinctly pathological, if we may say so, the albumin of Bright's disease: there is no Bright's albuminuria without serine.

Second.—The numerous family of globulins paralbumin, met-albumin, of which the most ordinary type is paraglobulin, again called simply globulin.

Third.—The peptones which correspond to the ancient albuminose of Mialhe.

Now from the examination of facts it results that of these three forms of albumen, the first only, serine, is related to a lesion of the kidney: globulin and peptone are not dependent upon lesion of the kidney: but must rather be referred to a peculiar state of the albuminoids of the blood.

There is great practical interest in this, for globulin precipitates by all the reactions which are commonly employed in the study of albuminuria, and its presence may consequently lead one to believe in a renal lesion which does not exist, or, if it coexist with serine, may cause one to suppose that a present albuminuria is much more abundant than in reality it is. As to peptone that does not precipitate by the usual reagents for serum-albumin, and its presence in the urine does not give place to any error in this respect.

The only difference that can be noted between the precipitates given by the two albumins are the following. With globulin the coagulation is a little slower, it is not absolutely instantaneous like that of serum-albumen; moreover the precipitate however abundant it may be, is never flaky at the moment of its formation, it does not become so secondarily, and does not present the phenomenon of retractility. These facts are important for the slowness, the homogeneity, the absence of flaky divisions and its retractility are precisely the characteristics of albuminous precipitates which are observed in the transient albuminuria, notably in the course of and following acute diseases; and inasmuch as even of late the precaution is not taken to separate the globulin before treating

the urine with the ordinary reagents, it is probable that in most of these cases there has been found a globulinuria and not a serum-albuminuria, that is to say in fine a false albuminuria due to a transient modification of the protein substances of the blood under the influence of acute diseases.

The process for the separation of the two kinds of albumen is very simple. A saturated solution of sulphate of magnesia is prepared, the saturation being such that some crystals are left undissolved. To a given quantity of urine an equal quantity of this solution is added, and the mixture is kept cold for twenty-four hours. At the end of this time an opaque cloud has formed by the precipitation of globulin. This substance is coagulated fully, and is pure, without admixture with other albuminoids. The coagulum so produced is separated by filtration, and in the filtered liquid one can test without fear of error by the ordinary reagents for serum-albumen.

ELECTRICITY IN DISEASES OF THE GENITO-URINARY ORGANS.

DR. W. E. STEAVENSON has had most satisfactory experience in the use of electricity in treating the genito-urinary organs. He says that as the lowest centres for the reflection of impulses connected with the genito-urinary apparatus are situated in the lumbar enlargement of the cord, by placing one electrode over the lower dorsal region and the other to the affected organ, we include the whole nervous supply of the parts in the circuit.

In a paper read before the Section of Surgery at the Brighton meeting of the British Medical Association (*Brit. Med. Jour.*, Nov. 27.) he relates some of his observations.

The annoying nocturnal incontinence of urine in children is sometimes very difficult to treat. Where due to phimosis, irritation from worms or oxaluria, of course, the proper treatment consists in the

removal of the cause, but aside from these cases Dr. Steavenson has observed many "cases in which, during sleep, the inhibitory influence of the higher centres appears to be in abeyance, and any accumulation of urine in the bladder excited through what is called the micturition centre in the lower part of the spinal cord, causes a reflex expulsive action of the vesical muscles, and a consequent incontinence." In these cases he had excellent success with galvanism. He places a pad connected with the negative pole of the battery over the lower dorsal region, and a small button electrode on the perineum. The perineum, especially just below the vulva in females, being a very sensitive region, strong currents must be avoided. When the sphincter is not at fault and the incontinence is not due to the loss of power of inhibition during sleep, or to paralysis of the bladder from over distention or other cause, one electrode may be placed over the pubes, but where the sphincter is weak, unless the electrode is inserted into the urethra itself, no doubt the most advantageous place for the second electrode is the perineum. His experience convinces him that "if the current is not applied directly to the part affected, it is best to dispense with the use of electricity altogether, for it most assuredly will fail."

The treatment by the galvanic current has proved successful in the treatment of incontinence which followed the dilatation of the urethra to explore the bladder, and that following a difficult labor.

Undue frequency of micturition also he has been able to relieve by the same plan of treatment, the relief being in some cases dependent, he believes, upon a strengthening of the nervous supply of the bladder, so that the reflex action is not so readily induced, and in other cases, due to cystitis, being dependent upon an improvement in the condition of the walls of the bladder induced by the current.

Cases of cystitis have all been benefited, some of them cured, by the treatment with galvanism.

In the treatment of these cases, Dr. Steavenson states that he has generally used the current every day or every second day for eight

or ten minutes each time, most of his cases requiring not more than seven or eight treatments. He uses a current of two or three to five milliampères if the patient can tolerate the higher strength.

Neuralgia of the pudic nerve has also yielded to galvanism applied in the same manner as described above for incontinence of urine.

Dr. Steavenson gives considerable space in his paper to the subject of the treatment of stricture of the urethra by means of the galvanic current, with which the profession in our own country are already familiar [*Vide* paper by Dr. D. Prince in last *COURIER*], and which he himself and Dr. Bruce Clarke have been instrumental in bringing to the favorable notice of the profession in Great Britain by the reports of excellent results obtained at their hands in St. Bartholomew's Hospital.

Mr. Bruce Clarke read a paper at the same meeting of the British Medical Association, giving additional confirmation of the views advanced by Dr. Steavenson.

ARMY HEALTH.—The report of the Surgeon-General shows that the year ending June 30, 1886, was one of exceptional freedom from disease, although it was one of unusual activity and hardship for the troops on the Southwest frontier. Compared with the average rate for the last ten years, the admissions to sick report were about one-fifth less.

The largest proportion of disability was due to injuries, eighteen per cent of all cases reported; next came diarrheal diseases.

TRAINING SCHOOL FOR NURSES IN JAPAN.—The *British Medical Journal* states that a training school for nurses is to be established in Kyoto, Japan, under the direction of Dr. Berry and Miss Linda, who has had experience in American and European hospitals. The school is specially connected with Christian Missionary work. The course of training will include both theoretical and practical teaching, and will extend over about eighteen months. A diploma will be awarded to those who prove competent.

BOOK REVIEWS AND NOTICES.

NEW MEDICATIONS. By PROFESSOR DUJARDIN-BEAUMETZ. Translated by E. P. HURD, M. D., etc. Parts I and II. (Detroit, Mich.; Geo. S. Davis, 1886.) Square, small 8vo.; pp. 320; paper; 25 cents a volume. (The Physicians' Leisure Library.)

Some of the best writing that has been done during the last few years with reference to therapeutics has come from the pen of Prof. Dujardin-Beaumetz.

In these two little volumes are contained condensed accounts of several of the modes of treatment, as well as special remedies which have been introduced or revived within the last decade.

In part I we note, as being of special interest, chapters on "New Cardiac Medicaments," referring specially to *convallaria majalis*, caffeine and trinitrine, adonidine, sparteine, *cactus grandiflorus* and *cereus Bonplandii*; "New Methods of Treating Stomach Diseases," in which, besides remarks on the various surgical operations which have been performed lately upon the stomach, are accounts of the processes of "lavage" and "gavage."

In part II. there is a discussion of the modes of treatment of pulmonary disease which depend upon the recognition of the bacillus tuberculosis. "Antithermic Medicaments," "New Hypnotics," "New Analgesic Medicaments," and "Local Anesthetics" are also considered in this volume.

The translator has done his work admirably, and the profession are indebted to Mr. Geo. S. Davis for presenting such valuable works at such a trifling price as that asked for the volumes of the "Physician's Leisure Library."

A MANUAL OF DIETETICS. By J. M. FOTHERGILL, M. D., Edin. (New York: Wm. Wood & Co., 1886. 8vo.; pp. 255; cloth; \$2.50.

One of the most favorable "signs of the times," it seems to us, is the fact that so much more attention is now being paid to the subject of diet, to the proper selection and proper preparation of various articles of food.

This work from the pen of Dr. J. M. Fothergill is a most valuable contribution to the literature of this subject. The style of this author is pleasing, and some parts of the present volume are particularly so.

Part I., comprising the first third of the volume discusses the objects of food, its forms and methods of preparation, condiments, beverages, stimulants, fluid foods, prepared foods, preserved and canned foods, and artificial digestive agents.

Part II. discusses food for different ages from infancy to old age, in acute disease, and then in a great variety of diseases.

In the conclusion the author says very truly: "The perusal of the foregoing chapters will, it is believed, convince most readers that there is much more to be said for food and feeding in disease—alike in acute maladies and mere chronic affections—than at first sight seems probable."

The more thoroughly we master the problems involved in physiology and in dietetics, the better shall we be able to do for our patients, and the less of medicine shall we dispense. In spite of the advances that have been made of late years there is very much yet to learn, and such works as this of Dr. Fothergill are of the very highest value, and should be thoroughly and carefully studied by all of us.

MEDICINE OF THE FUTURE. An Address prepared for the Annual Meeting of the British Medical Association in 1886. By AUSTIN FLINT (Senior), M. D., LL. D. (New York: D. Appleton & Co.) 1886; 8vo.; pp. 37, cloth.

Doubtless many of the former pupils and other admirers of the eminent teacher, author and practitioner, will be glad to read this his last literary work. The manuscript of the address which he intended to deliver, as he had been appointed to do, at the meeting of the British Medical Association, was found by his son among his other papers after his death and was printed just as he found it. The address, as indicated by the title, is largely a speculation as to the future progress of our art. There are words of warning, of encouragement and of hope which may be read with profit by all.

ELEMENTS OF PRACTICAL MEDICINE. BY ALFRED H. CARTER, M. D., London; third edition. (New York: D. Appleton & Co.) 1885. 12mo.; pp. 447; cloth.

This little volume claims only to be an elementary book on medicine. As such it has gained considerable popularity among stu-

dents in Great Britain, and seems to meet a distinct want. It is rather a favorable specimen of a class of books which are not on the whole to be commended, as in our opinion they tend to superficiality in study and laxity in work.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF MISSOURI. 1886. 8vo.; pp. 118, paper.

The meeting of the Missouri State Medical Association was held in St. Louis during only one day this last year, being the day immediately preceeding the meeting of the American Medical Association. The session being so brief the papers were read by title, and there were no discussions. The time of the meeting was fully taken up with business. The volume, as published, contains beside the minutes of the meeting, constitution, by-laws, code of ethics, etc., the address of President Cutlett and Essays by Dr. N. M. Bassett on Addison's Disease (published in the *COURIER* June, '86), An Unusual Case of Syphilis, by Dr. A. H. Ohmann Dumesnil, The Curability of Epilepsy, by Dr. C. H. Hughes, Treatment of Penetrating Gunshot Wound of Abdomen, by J.W. Heddens, Report of Committee on Forensic Medicine, by Dr. H. Christopher, Report of State Board of Health, by Dr. Geo. Homan, Report of Committee on State Medicine, by Dr. D. H. Shields, and the Report of the Committee on Medical Education.

DRUGS AND MEDICINES OF NORTH AMERICA.

The September number of this valuable publication completes the account of the Magnolias and gives a plate, showing the distribution of the different species. Then follows the account of *Asimina triloba* or papaw; and an article on lobelia is commenced. These papers, when completed, will form the ablest presentation in existence of our indigenous vegetable materia medica.

ANTISEPTIC MIDWIFERY by H. J. GARRIGUES, M. D. "The Physicians' Leisure Library." Published by Geo. S. Davis, Detroit, Mich. Square 8vo.; pp. 128; paper; 25 cents.

This is a thoroughly well written exposition of the best form of the modern antiseptic treatment as applied in midwifery practice by one to whom the profession are deeply indebted for perfecting a practical method for this kind of work.

We have given on another page an outline of the method as pursued by Dr. Garrigues in the Maternity Hospital, and believe we

can do no greater favor to our readers than to urge them to procure a copy of the volume, and to study and adopt the method in their private practice.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND. Eighty-eighth Annual Session held at Baltimore, Md., April, 1886. 8vo.; pp. 254; paper,

This volume, like all those published by this society, contains a considerable number of valuable papers, and reflects credit upon the society whose members offer the papers and whose committee issue the volume. A paper in which we were specially interested was the annual address before the Faculty delivered by Col. Geo. E. Waring on the "The Removal and Destruction of Organic Wastes."

The volume is well printed, but would present a better appearance if the advertising pages at the end were omitted.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at the Tenth Annual Meeting, held at Indian Harbor Hotel, Greenwich, Conn., on the 25, 26, and 27 of August, 1886. Boston, 1886. 8vo.; pp. 71; paper.

This is a very handsomely printed pamphlet, in which the secretary of the Association gives the official record of the last meeting, the papers being generally given only in abstract, and followed by a brief report of the discussion elicited. Most of the papers have been published in full in various medical journals, thus securing for them a wider circulation than would be secured if given only in their Transactions, while the abstracts and discussions form a permanent record of work done by the Association for preservation by the members.

THE PHYSIOLOGICAL, PATHOLOGICAL AND THERAPEUTIC EFFECTS OF COMPRESSED AIR. By ANDREW H. SMITH, M. D. (The Physician's Leisure Library.) Geo. S. Davis, Detroit, Mich., 1886. Square, 12mo., pp. 112, paper, 25 cents.

This is one of the volumes of the valuable series issuing from the press of the enterprising publisher in Detroit.

Dr. Smith, having had ample opportunity for observation upon the subject while employed as surgeon to the East River Bridge Co., has added to his own personal studies the results of the observations made by Dr. Jaminet in connection with the work in

constructing our St. Louis bridge. To this report, which is in itself probably the most complete study of caisson disease to be found in the English language, the author has added a chapter on the therapeutic uses of compressed air in the pneumatic chamber.

PHYSICIAN'S OFFICE REGISTER. Copyrighted by HENRY BERND, 1887, St. Louis, Mo.

It is a notorious fact that physicians as a class are unbusiness like in regard to their money matters, and there are few physicians who have not lost in the aggregate large sums of money by inaccuracy or neglect in keeping their accounts with their patients.

This being premised, it follows as a natural sequence that the man who devises a plan which will facilitate and simplify this part of the physician's work, deserves the thanks of the profession.

The "Office Register," now before us, has been designed by an experienced and skilful practical accountant to meet these needs of physicians, and seems well adapted for the purpose.

On each pair of opposite pages there are spaces ruled so as to afford ample accommodation for the account with eight families for a whole year, and the pages are arranged with a thumb index, so that each name being entered upon its appropriate page, it can be found at once without necessitating reference to a special index.

The number of spaces assigned to each letter has been arranged according to the result of experience as to the frequency with which names occur under the different letters.

The volume contains ample accommodation for taking account of a large practice, and the system is such as to make the task very easy. We commend the work to the notice of our readers.

MEASURE OF A MAN.—Broca formulates the rule that the body should weigh as many kilogrammes as it measures in centimeters, after deduction of the first metre, e. g., a man who measures one metre, eighty centimetres—180 cm.—should weigh eighty kilos. If he weigh more or less, he is too stout or too thin. As man increases in years he dreads in weight, and there is a compensating decrease in height.—*Technics*, Feb. 22.

TRANSLATION.

SAMARITAN LETTERS.

BY DR. FRIEDRICH ESMARCH, *Professor of Surgery in Kiel, President of the German Samaritan Union.*

Translated by MRS. EMILY A. NELSON, ST. LOUIS.

FOURTH LETTER.

DEAR FRIEND.—Both for me and for the German Samaritan Union, it is an unmistakable triumph that you avow yourself to be entirely converted from your early views regarding the Samaritan scheme, so that now you contemplate organizing one of these schools, and pledge yourself to activity for the development of the Samaritan idea in the entire extent of your practice.

In pursuance of this design, if you wish the aid of the German Unions, their assistance is ready, for these Unions stand avowedly prepared to afford it in any manner; our very creed being invariably to support and to render aid to all such endeavors.

Now, I would suggest that you will perhaps better take as foundation for your lectures in the Samaritan School mine, which I have had printed for a guide, as I consider it judicious that the instruction of the Samaritan scholars should be everywhere of similar character.

There is, as you know, a vast mass of popular writings about "The First Help." I have, however, failed to find among them even one which entirely satisfied my demands. A part of these are throughout of no popular value—either in form or contents. In most of them the laity are offered far too much, taught too much—things that they can neither comprehend nor make use of, and many receive entirely perverted and obsolete views and lessons which can only lead them astray.

It seems to me necessary that the author of such instructions should be an adept in surgery, and stand at the head of his pro-

fession, for before everything else the point is that in sudden accidents (which are in most cases apt to lie within the domain of surgery) the Samaritan should know not only what to do, but more important still, what he should let alone. The saying, "Do no harm," which I have so often proclaimed, must here be made very prominent.

Although I have taken great pains in my lectures on the "The First Aid," to shun not only unfamiliar terms, but also everything which is unnecessary or unserviceable for the laity to know, I do not by any means flatter myself that in every expression I have been perfect, and certainly do not expect that the Samaritan teachers shall lay especial stress on my exact words, but it does seem to me important for all Samaritan schools to build on the same foundation, because otherwise the idea which I wish to see embodied in the name of "Samaritan" would only too soon become entirely inapplicable to many.

My little book would appear to have found appreciation wherever people have wished to follow our example, for it has already been translated into fourteen languages and has been made of use in every land as foundation for the instruction wherever Samaritan schools have been introduced.

Now, if you wish to organize one of these schools, I advise you not to do as I did at first in 1882.

I gave notice in the newspaper that I would deliver public lectures "Upon the First Aid in Sudden Accidents," and that I invited all those who wished to attend to apply to me by letter. I had the intention of beginning the lectures as soon as twenty five suitable candidates should be found. But in three days there had already applied more than eight hundred from all classes of society, plunging me into great perplexity, as I had not reckoned upon such a host.

True, the chancellor of our university placed at my service the entire university building, but there the audience hall could not hold more than four hundred listeners; so I was obliged to divide the applicants into two bodies, and twice a week for five weeks delivered lectures to that number of hearers.

After each lesson these were distributed in twelve different classrooms and there under my superintendence were trained in the most varied methods of lending aid, by twelve younger physicians who each had at his side a student, a hospital nurse or a sister.

Since it would, however, be difficult for you in your course to arrange for such accommodations and such assistants, I advise you to enter upon the plan which we now are in the habit of following, and which seems most suitable in the large majority of places where these unions organize; that is, to invite to the Samaritan instruction first, specified classes of men in whose calling sudden accidents occur most frequently, as mill-hands, firemen, sailors, mountaineers, railroad and postal-service employes, or to those who find frequent opportunity to render service to them, as the police, gendarmes, night-watchmen, etc.

If you only accept twenty-five or thirty persons for a school, then the aid of one colleague, or of an already trained Samaritan will suffice to inaugurate the practice after the lecture.

The German Samaritan Union will give you in pursuance of your design, a "Teaching Chest," which contains everything you will need for the explanation or for the drill.

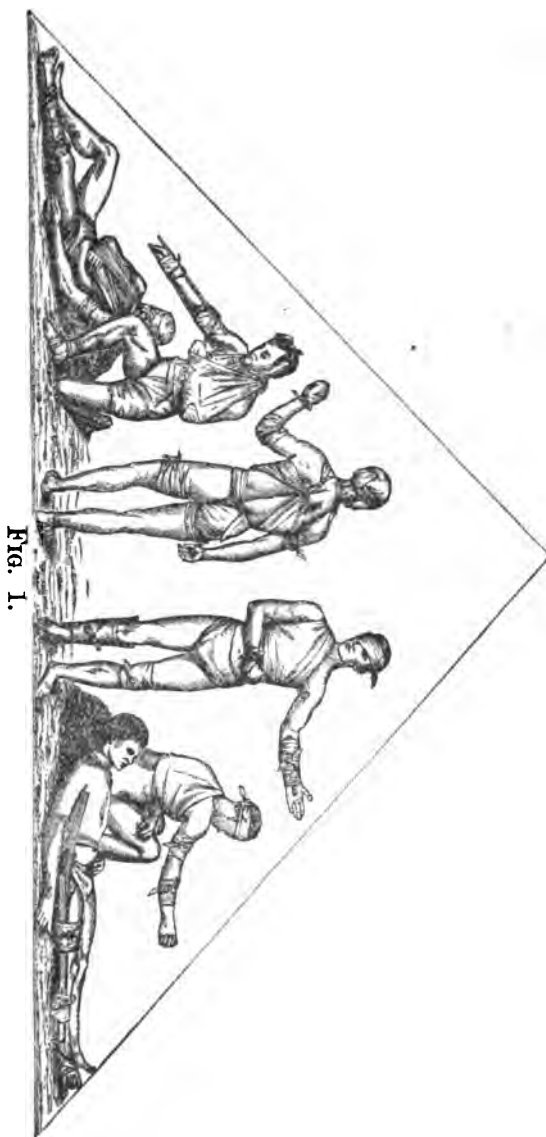
You will first find therein six wall charts that you must paste upon linen and supply with rollers at both ends. On these charts you will find illustrated :

1. A human skeleton, life size.
2. A human body on which the location of the most important viscera and the course of the principal blood-vessels are pictured, and on which are shown muscles, veins and nerves.
3. A simple outline of the circulation of the blood, with the help of which even the unprofessional can positively distinguish the difference between arteries and veins.
4. A simple fracture.
5. A fracture complicated with an allied injury of the integuments, in order to show the laity the great difference between these two fractures.
6. A dislocation of the left shoulder and of the right elbow-joint, which embodies an illustration of how in each the dislocation can cause permanent change of form.

These charts you will find very useful in making clear to your hearers what you present for their attention.

Besides these, the chest contains the simple means of aid which we use in practising the drill which every time follows close upon the lecture, and through which the Samaritans acquire the manual tact which they could not otherwise obtain without exact medical knowledge and experience.

First, and above all else, I advise you to show the adaptation of



triangular cloths to bandages. You will find in the chest ten

such cloths on which the different forms of these bandages are illustrated (Fig. 1) so that whoever carries a similar kerchief can at any time, through a glance at the outline, recall to mind what he has learned. I advise you to glue one of these cloths upon pasteboard and hang it up, that the scholars in practising can always have the idea before their eyes.

Three cloths are cut in halves, because one finds necessary for many bandages only small cloths.

Also a variety of bandages and slings you will find in the chest, and you should certainly make the attempt to secure especial zeal on the part of the female students to learn the application of these. Moreover, I advise you to lay greater stress in the drills upon the application of the triangular cloths than upon the other bandages, because the applying of the latter is far more difficult to acquire and because one badly placed will cause harm much sooner than the former.



FIG. 2.

I never neglect to make very prominent the danger of such a bandage and show as a warning a picture which illustrates a hand become gangrenous through the tight winding of a narrow band.

Further, there are to be found in the chest numerous simple wooden splints with which the first bandage can be applied in the fracture of the arm and leg, if the physician is far distant and bystanders are obliged to transport the man to the dispensary. And in order to show how one can make use of the greatest variety of materials for this purpose, I have gathered some splints made of twigs, others of straw, of pasteboard and even a small flower-pot trellis, all of which can equally well be used in practice.

The little wadding-balls made of antiseptic wadding and gauze

(Fig. 2) we use in "bandage practice" when handling shot or stab wounds, to bind closely over the injured place in order to keep in the students' mind the important fact that nothing which could possibly soil or infect should be allowed to come in contact with fresh wounds.

Finally, the chest contains several articles which can be used by the laity for the staunching of hemorrhage: First, a suspender-tourniquet (Fig. 3), by the aid of which anyone, even though he

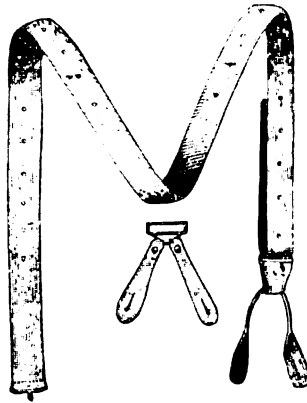


FIG. 3.

does not know the situation of the great arteries, is in position to check the hemorrhage until a physician arrives. When you show the application of this elastic girth, I beg you to emphasize the fact that no pad should be applied to the trunk of the artery, as is so often taught and illustrated by physicians who have never tried the working of the elastic girth.

The repeated binding of the limb in the same place completely suffices to press the soft parts so closely together that not a drop of blood can force its way from the closely bound arteries. Just in this particular, the elastic girth is much more useful than the old tourniquet, while the pad formerly used was so easily displaced in moving the injured one.

But I suggest that especial stress be laid upon the danger of the elastic band being left to unwind or of its being applied to the wrong place, or of its being left in use too long a time, and that you

should always reiterate imperatively the direction to bring the wounded one as soon as possible to the physician's care.

You will find, beside, a piece of bark with the help of which we illustrate in the drills how even the most serious bleeding of hand or forearm may be stopped by an unyielding substance laid between the breast and forearm. When you illustrate this, let the students feel the pulse that they may recognize how easily through such pressure a hemorrhage may be checked.

Lastly, there is a small stick with which to show how one who has no other means at hand except a handkerchief and a staff or perhaps only a house-door-key, through a proper placing of the stick tourniquet can stop the blood at least for a time.

[TO BE CONTINUED.]

SIGNAL FLAGS.—The new system of weather signals adopted by the signal service, commends itself for simplicity and legibility. The system is to go into general effect on March 1, 1887, but it is recommended that to secure uniformity, as the present flags become worn or unfit for use they be replaced by the flags of the new system. The explanation of these signals is as follows:

Number 1. White flag, always indicates clear or fair weather—no rain. Number 2, blue flag, indicates rain or snow. Number 3. Black, triangular flag, always refers to temperature. When placed *above* numbers 1 and 2, it indicates *warmer* weather; when placed *below* numbers 1 and 2, indicates *colder* weather; when not displayed, the indications are that the temperature will not change more than five degrees from the temperature of the same hour on the preceding day. Number 4, cold wave flag, indicates the approach of a sudden and decided fall in temperature. This signal is usually ordered at least twenty-four hours in advance of the cold wave. It is not displayed unless the temperature is expected to fall to forty-five degrees or lower, nor is flag number 3 ever displayed with it. When displayed on flag-poles the signals should be arranged to read downward; when displayed from a horizontal support, a small streamer should be attached to indicate the point from which the signals should be read; when in the form of symbols, to be displayed on cars, the symbols should be placed one above the other and read downward. No. 4, cold wave flag is a white flag with a black square in the centre.—*From St. Bd. of H. Bulletin.*

REPORTS ON PROGRESS.

DISEASES OF NERVOUS SYSTEM.

REPORTED BY FRANK R. FRY, M. D.

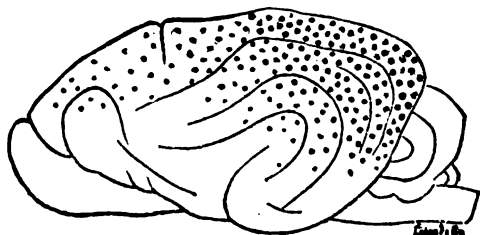
Localization of Function in the Cortex of the Brain.—JOSEPH JASTROW writes: A convenient summary of the main points that have been established by experiments on animals, by pathological records and anatomical research, regarding the relation of certain parts of the brain to the various senses and systems of muscles, is a very welcome contribution to this vexed question. If, in addition, the work brings new light on some of the problems, and a worthy appreciation of its predecessors, it is doubly welcome. The recent work of Dr. Luciani and Dr. Seppilli has these claims to our highest praise.

The view of Flourens, that all the parts of the brain were functionally equivalent, was followed, after the discovery of the excitability of the cortex in 1870, by the very opposite view that the brain consisted of a collection of areas definitely circumscribed, each of which had exclusive charge of a certain function. The view held by our authors, agreeing with that of Exner, Goltz, and others is a mean between the two. The different parts of the cortex have very different relations to the several functions. But a centre is not a definitely limited area; it has a focus and a 'periphery,' but no hard and fast boundary lines. The peripheries of the various centres overlap. Take the visual centre, for example. If you regard the sight-centre as all that part of the cortex the removal of which will cause disturbances of vision, then this centre is almost too extended to be localized at all; but, if you distinguish between transitory and permanent (though gradually decreasing) impairment of vision, the occipital lobe, with a small part of the adjoining parietal, is at once marked as the focus of the sight-centre; its 'periphery' extends in the direction of the frontal and temporal lobes. An injury to the peripheral portions will cause less severe

and less permanent impairment of vision than injury to the focus.

The extensive destruction of one occipital lobe produces blindness in a small external segment of the retina on the same side, and in a large internal segment of the retina on the opposite side; *i. e.*, each centre is connected with both sides of the body, but more with the opposite side. This furnishes a simple scheme of the decussation of fibres in the optic chiasma. The general results are compactly represented in a diagram of the dog's brain, in which the size and proximity of the dots show the 'intensity' of the different parts of the centre, while the shaded dots show the proportion of the centre connected with the same side of the body.

The accompanying diagram of the dog's brain shows the location



and extent of the visual centres, as proved by the impairment of vision due to extirpation of this area. The occipital region, as indicated by the size and frequency of the dots, is most immediately connected with this function; but an area of minor intensity extends towards the frontal and parietal lobes. The shaded dots indicate (roughly) the part (a smaller one) of the centre connected with the retina of the same side; the others, the part (a larger one) connected with the opposite retina.

The centre for hearing has likewise a focus and periphery, and the scheme of decussation would be quite the same. The focus is in the temporal lobe with the periphery extending in the direction of the parietal and frontal lobes, of the hippocampus and cornu ammonis. The attempts at localizing the centres for smell and taste are less definite and less certain.

On the pathological side, the correlation of certain disorders with lesions of certain parts of the brain tends to the same results in the main, and thus makes the experimental evidence doubly important.

The central convolutions and the immediately adjoining parts of the parietal and frontal convolutions form the sensor-motor zone.

It is the terminal station for the reception of skin and muscle impressions, as well as the origin of the voluntary control over certain muscles. The motor zone is directly excitable by electrical stimulation, and is the part the irritation of which produces epileptic spasms. A study of the order in which these spasms affect different groups of muscles, with a post-mortem examination of the brain, tends to more define localization of the facial centre, the arm-centre, and the leg-centre. The chapter on epilepsy, from the point of view of Hughlings-Jackson, is a valuable presentation of the subject.

These cortical centres are not the places where the crude sensations are received, but the places where they are elaborated, interpreted, and associated with other impressions. They are perceptive centres.

The work of Luciani and Seppilli is an onward step in this difficult subject, and can be recommended as the best book to use for those who have only time for one book. While it leaves many problems unsolved, it gives hopes of a solution, and leaves the conviction that we are on the path towards a scientific and rational conception of the functions of the highest product of evolution, the human cortex.—*Science*, Oct. 29, 1886.

As a practical application of the above knowledge we quote the following from an article on Brain Surgery, by Victor Horsley, B. S. F. R. S., *Brit. Med. Journal*, Oct. 9, '86: "There are many other points connected with the physiology and pathology of the brain which will regulate operative treatment of the same, such, for instance, as the taking care to leave, if possible, portions of each centre, so that the representation of movements of any particular joint may never be totally destroyed, for total destruction means obviously a permanent paralysis, on the opposite side, of the movements previously regulated by that cortical centre."

Temporal Lobes and Word Deafness.—DR. LANDON CARTER GRAY, in a paper read before the last session of the American Neurological Association, gave the history of a case in which, although the post-mortem examination showed extensive lesions of both temporal lobes there were neither word-deafness nor deafness. He also cited a case recently reported by Professor Westphal, of Berlin, exactly in accord with his own.

In concluding he says: "In view, therefore, of Westphal's case

and mine, I think we must abandon or modify the theory, which has been growing out of Munk's clever and famous experiments on dogs and monkeys, to the effect that the human temporal convolutions were the so-called 'centres' for the mental reception of sounds. It is very probably true, as Westphal suggests, that the cases hitherto reported as confirming Munk's experiments have been cases of lesions of multiple convolutions, from among which the lesion of the temporal convolutions has been arbitrarily selected as responsible for the word deafness. These two cases also militate against the classification of aphasia which has been suggested by Wernicke, viz., a division into sensory, motor and conductive (*Leitung's aphasia*) aphasia, the first being due to lesions of the temporal and occipital convolutions, the next to lesions of the third frontal convolution, and the last being caused by impairment of the commissural fibres between the sensory and motor areas of the cortex."

Studies of the Surface of the Brains of Criminals, etc.—At the last meeting of the American Neurological Association, the President, Dr. Charles K. Mills, read an able paper on "Arrested and Aberrant Development of Fissures and Gyres in the Brains of Paranoiacs, Criminals, Idiots, and Negroes." The paper was illustrated by a number of valuable specimens.

From his remarks we excerpt the following, which we think it would be well to have in mind when attempting to answer the sometimes troublesome questions in regard to crime and insanity: "Striking differences can be detected between these brains and what is commonly regarded as the average normal human brain, and the brain of high development. Here we have the brain of B., recognized by all as a delusional lunatic; of T., whose life was a sickening tale of lust and violence; of a feeble minded youth, the victim of a form of neuro-muscular degeneration; of B—h, who showed evidences of imbecility, paranoia and epilepsy; and finally of T., an ignorant negro, with a record both of criminality and insanity. In all these brains are points of affinity which put them in a class together; in an emphatic sense they represent the brains of low and aberrant development."

"To attempt to construct a theory as to the anatomical basis of crime, is, in some respects, unphilosophical. Crime being technically the transgression of the law, criminals must be of the most diverse character. Almost anyone may become a criminal under the

stress of peculiar circumstances, and therefore, he who would attempt, in a general sense, to establish a criminal type of brain might be led into gross error; but no matter what subdivisions of criminals may be made, a certain number will always be found who are criminals as the result of their organization, because of retarded, defective, or aberrant brain development. Whether even such criminals should be technically regarded as insane, is a further question; certainly all of them need not be so classified; more certainly many of them must be so classified.

Some authorities are strongly inclined to doubt whether studies of this description into the gross peculiarities of gyrals and fissural development, or of any other gross abnormalities, can give us any result of value, so far as determining the mental type of the individual. Clevenger is inclined to doubt whether a special study of criminals' brains would afford any results apart from investigations among any other classes of men.

The error should not be on either side. On the one hand, we should not, with Benedikt, and his followers and admirers, fall into the error of supposing that we have an almost absolutely fixed type of criminal brain; on the other hand, we should not be too broad in our denunciations of those who look to a study of original organization for their conclusions as to the mental state and responsibility of those who commit crime. If we admit with physiologists and anthropologists that a certain number of the people of this world are criminals as the result of inherited organizations, in that admission we show the necessity and great value of studies into the conditions of brain development.

A Case of Hammerman's Cramp is reported by G. V. POORE, M. D. In connection with this case he says: "The commonest of this class of diseases is "writer's cramp," of which I have seen about 200 cases. Failure of professional movements other than writing is infinitely rare, but I have had occasion to see pianists who cannot play the piano; violinists who have lost the power to manipulate the strings with the left hand, or hold the bow in the right hand; a violoncello player who had lost the power "to make the nut" with the phalangeal joint of the left thumb; a compositor who could no longer hold the "stick" in his left hand; a tailor who could not sew; a pickle-jar-tier who had lost the power of grasping the top of the jar with his left hand; a watchmaker who could

not hold his watchmaker's lens in his eye; a packing-case maker who could not use his saw; a bricklayer who could not use the trowel; and lastly a nailmaker (our patient of to-day) who cannot wield his hammer.

Other observers have described similar affections in telegraphists, ballet dancers who perform the "pas de pointes" on the tips of their toes, milkers, and fencing masters; and Prof. Dieulafoy once told me that he had seen a cellar-man from Rheims who had lost the power of giving a slight rotary movement to a champagne bottle, a movement which he was called upon to exercise all day and every day.

Careful examination of these cases has shown me that the breakdown is generally most evident in those muscles which are subjected to prolonged strain, rather than in those in which the periods of contraction and relaxation were equally divided. Thus in writer's cramp it is the muscles of pen-prehension rather than those of pen-movement which are liable to fail."

Cases of this kind until a recent date have been regarded as pathological curiosities. Methodic treatment for their relief was not generally undertaken. With a better understanding of the pathology, enabling us to distinguish between troubles of a central origin and those affecting the peripheral nerves only or the muscles we can direct a treatment that is successful in many cases. Especially has the massage treatment been of great benefit.—*The Lancet*, Aug. 21, '86.

Sciatica Cured by Puncture of the Sheath.—SIR JOSEPH FAYRES reports a case of long standing sciatica, in which tenderness and fulness existed over the sciatic near its origin. On puncturing the swelling about two drams of clear serous fluid were drawn off. Instant relief and rapid recovery followed.

The method of deep injection, down onto the nerve, of chloroform and ether has the reputation of being a very useful plan of treatment in this affection. In employing this method the writer has always noticed that relief was given when the nerve was touched. A good result is expected when the introduction of the needle is accompanied, and followed for a short time, by tingling and pain throughout the course of the nerve, down into the foot. An extra long needle is used, and it is pushed firmly and straight in. The pain is often complained of before the injection (2 or 3

drops of ether) is delivered. Perhaps the acu-puncture is the important item of the remedy.—*Practitioner*, April, 1886.

Antipyrin in Headache.—According to DR. JOHN R. WHITE, antipyrin “not only promptly relieves the symptoms of headache, whenever present, whether resulting from disordered digestion, disturbance of the menstrual functions, loss of sleep, undue mental effort, or even that associated with dreaded anemia, but also possesses reliable prophylactic virtues against recurrent attacks of cranial neuralgia.” Relief often follows a single dose of fifteen grains within half an hour. “A sense of drowsiness ordinarily supervenes, followed by a brief but sufficient slumber, and the patient awaking quite relieved from the distressing symptoms.”—*Med. Record*, Sept. 11, 1886.

OBSTETRICS AND GYNECOLOGY.

REPORTED BY H. S. BROOKES, M. D.

Fibro-myomatous Tumors of the Uterus.—FREDERICK LANGE, M. D., read a paper on the above subject before the New York Surgical Society, in which he related six cases, three having a very uncommon termination, two of which ended by expulsion of the tumor mass after spontaneous sloughing, the third by shrinkage after central suppuration and softening. In all of the cases the natural effort requires surgical assistance, all ending in recovery.

Case I. Patient aged 45, married, had an abdominal tumor for three years; diagnosticated as fibro-myoma of the uterus. Had been advised against operating. Ergot administered internally and locally, but without effect upon either the hemorrhage or size of the tumor. When seen by Dr. Lange the tumor, an irregular shaped mass, occupied almost the entire abdomen and caused intense suffering. The radical operation was proposed, but patient declined. The patient became feverish, an offensive discharge from the vagina appeared, emaciation soon followed.

There was discovered a piece of necrosed tumor in the vagina, size of a fist. This was removed. For two weeks following several smaller pieces were removed daily. Tumor was now reduced to size of uterus in fifth month of pregnancy. After the extrac-

tion of the last mass the offensive discharge ceased. Antiseptic irrigation continued until discharge ceased. Menses returned for one year. Tumor supposed to weigh about fifteen pounds.

Case II.—Patient aged 46, never pregnant, suffered for two years from a prolonged profuse menstruation, with vomiting and severe pain in her back; last menstruation followed by a leucorrhæal discharge. A tumor (fibromyomatous), reaching within one and one-half inches of the umbilicus, was diagnosticated. Ergot administered hypodermically for twenty-six days, causing pain and inflammation, which latter was held in check by cold applications. During menstrual flow ergot given internally—hypodermatic injection discontinued. Two months after adoption of ergot treatment, an offensive bloody uterine discharge appeared. Vaginal portion of the uterus softened and dilated, a soft mass was felt within.

Patient being anesthetized, a lateral incision was made into the cervix uteri, and a mass of the tumor weighing one and one-half pounds was removed. Owing to small vagina satisfactory digital exploration could not be effected, excepting that some undetached necrotic masses still remained. Two drainage tubes were introduced, and repeated irrigations made with solutions of salicylic and boric acids, and once daily solutions of mercuric chloride 1:5000. Drainage tubes acting unsatisfactorily (being often clogged with the debris, and irritating the internal orifice), Fritsch's uterine irrigator was substituted. Chills and fever with symptoms of peri- and parametritis soon followed. At the site of a fibroma near the supravaginal portion of the cervix was felt a diffuse infiltration and exudation, pushing the lower part of the uterus toward the symphysis. It was decided to remove the sources of infection from the uterine cavity, which was done partly by forceps, partly by curetting. Two weeks after last operation an incision was made through the posterior cul-de-sac into what was supposed to be the centre of a fibroma, evacuating pus mixed with small pieces of necrotic tissue. The discharge diminished, patient improved, slight hemorrhage occurring with the expulsion of sloughs. Uterus is almost of normal size. Menstrual flow has reappeared twice, normal in quantity and duration. It was thought that part of the tumor disappeared, either by atrophy or fatty degeneration, and that the ergot had a causal relation to the necrosis and elimination of the remaining part of the tumor.

Case III.—Age 28, during past four years menstruated profusely, suffering acute pain, supposed to be due to a uterine tumor. Thirty hypodermatic injections of ergot were administered, but without success. Gave history of abdominal injury, describing sensation as if something had been torn. Ergot used internally but without success. A deep seated phlegmon of the abdominal wall was observed, apparently in the retroperitoneal space below the umbilicus. An incision in the linea alba was made, through which a large quantity of pus was discharged, and a drainage tube was inserted. It was now learned that a uterine tumor, originating from the fundus of the uterus, was adherent to the abdominal wall, and contained a pus cavity. Tumor originally size of a child's head. Calcareous masses were repeatedly washed out. Wound was washed out. From walls of cavity were removed a tablespoonful of calcareous spiculæ, shells, and irregular bodies. Four weeks later the wound cicatrized, since which patient has had perfect health. A lump of the size of a duck's egg in connection with the cicatrix is still felt. Menstruation has been normal. It was supposed that the injury caused a rupture of the insertion of the tumor, interfering with its nutrition, inducing central softening and suppuration, thereby arresting its growth. No medicinal treatment after operative interference.

From the writer's experience doubt was expressed as to any beneficial influence resulting from removal of the ovaries, he much preferring the radical treatment and regarding medicinal treatment dangerous delay.

Case IV.—Patient, aged 33, single, had an abdominal tumor for three years. Tumor extended from pelvis to margin of ribs, a pedunculated fibrous tumor attached to uterine fundus. Supravaginal amputation of uterus decided upon on account of the rapid growth of tumor and presence of several smaller ones within the uterine walls, which, if left, might develop rapidly. Abdomen opened from epigastrium almost to pubes. Adhesions slight, veins of broad ligaments enormously dilated. Broad ligaments tied in several portions close to sides of uterus.

An elastic ligature was passed under the peritoneal covering of the cervix. Uterus was amputated about 3 cm. above this ligature and whole mass removed.

The tissue of the stump excised funnel shaped, actual cautery applied and iodoform dusted over the eschar. Wound closed by

catgut sutures, the peritoneum adjusted by superficial ones. The ends of ligated tissue were cauterized and sprinkled with iodoform. Abdomen closed in the usual manner. But little fever ensued, recovery very rapid, and is now well. The only difficulty anticipated was exposure and hemorrhage; there was scarcely more than an ounce of blood lost. The elastic ligature beneath the peritoneum offered better nutrition for the stump. Tumor weighed nine pounds and was throughout a fibromyoma.

Case V.—Patient, aged 33, single, had suffered seven years from a profuse menstrual flow, due to a tumor. Ergot injected into the mass once caused peritonitis, lasting six weeks. Tumor increased in size. Pain became acute. Health greatly impaired. Examination of tumor revealed an irregular hard mass, extending from deep down in the pelvis to the margin of the ribs on the left side. Everything seemed immovable. At the request of the patient the operation was undertaken. Adhesions were found to the anterior abdominal wall, intestines and omentum. Veins very large, requiring careful ligature. Hemorrhage free, requiring ligatures, sutures and actual cautery. During the operation frequent indications of heart failure caused some interruption, requiring artificial respiration. Operation lasted three and one-half hours. Convalescence protracted, disturbed by peritonitis and an abscess which discharged itself spontaneously through the cervical canal. Another abscess formed in the anterior abdominal wall, and was opened in the line of the original incision, leaving a fistula. Three and a half months after the operation cervix was dilated on account of the protracted offensive suppurating. Quite a number of silk ligatures were removed, the elastic ligatures being apparently safely encysted. Several ligatures were also removed from the abdominal wall, near original incision, since which the discharge has almost disappeared. Weight of tumor ten pounds. The patient does not suffer any now, and can be regarded as definitely convalescent.

Case VI.—Patient aged 30, married, multipara; suffered acutely during her menstrual period, complaining of much pain and tenderness in the hypogastric region. The patient requested a radical cure, all other means having failed. Accordingly, a laparotomy was made, and two pedunculated fibromyomata, size of a fist, (one formed in Douglas' cul-de-sac, attached to fundus of uterus, the other attached to right side of uterus in front of the broad ligament, necrosed, owing to torsion of its pedicle) were removed.

There was no exudation of pus or fluid. Tumor had a greenish tint, and contained no fluid blood. A small portion of the necrosed tissue remained beyond the ligature. A third tumor, size of a hen's egg, was partly inserted on anterior wall of uterus above. The cervix was enucleated after incising thin layers of uterine tissue. There was much capillary hemorrhage, and the necessary effort to check a hemorrhage prolonged the operation. Death resulted on the third day from septic peritonitis. No autopsy was conceded. This case illustrates the retrogressive metamorphosis due to torsion of the pedicle. Infection probably started from this pedicle of the necrotic fibroma.

In presenting the above cases the writer calls attention to the advantages of the elastic ligature as applied in case IV.

He advocates the long abdominal incision as rendering the operation less difficult, and adding nothing to the danger. To obviate loss of warmth from exposure of intestines he recommends the use of large flat sponges dipped in weak aseptic fluid.—*Medical News*, June 12, '86.

Suppression of Pain in Labor by the Local Application of Cocaine.—DR. JEANNEL says of cocaine in labor:

The causes of labor pains are due to,

1. The muscular contraction of uterine walls; unaffected by cocaine.
2. The dilatation of the cervix, vaginal walls and nerves of the parts pressed upon and torn; greatly relieved by cocaine.
3. Pressure of fetus upon nerve-trunks of pelvis; cocaine useless.
4. Stretching of the vulva by presenting part; cocaine of great benefit.

The patient complains of a dull pain above the pelvis and in the loins. These observations are the results of but a few experiments, and it remains yet to be seen the constitutional and local (uterine contractions) effect of the drug. Cocaine is certainly not so convenient or effective as chloroform, though safer and devoid of any bad after effects.

At present the most satisfactory use for cocaine at the time of labor is in cases of lacerated perineum in which the hypodermatic injection of a few drops allows the immediate and painless suture of the parts.—*Medical Record*, July 3, '86.

SOCIETY PROCEEDINGS.

ST. LOUIS MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, November 2, 1886 Dr. Lemen in the Chair.

DIPHTHERIA.

Dr. Nelson said that in a time like the present, when diphtheria is so prevalent in the city, we are continually called to see cases with regard to which the diagnosis is at first somewhat doubtful. Last night a little girl about 7 years old was brought to him with regard to whom at first he was very much in doubt as to what the condition was. Each tonsil was nearly as large as the ball of his thumb; both were studded freely with spots which seemed to be simply due to severe follicular tonsillitis. There was no distinct membrane over the surface, and he felt justified in telling the mother that, while he could not pronounce a certain diagnosis, he did not believe that the child had diphtheria. He prescribed a gargle of chlorate of potash and Listerine and water. The child had never acquired the art of gargling. The mother was an energetic, business-like woman, and, as the child could not gargle, she thought "she would gargle it herself"; and she made a mop of a piece of rag on the end of a stick, and rubbed the tonsils very thoroughly with this dipped in the solution. As a result, when he saw the child in the morning, there were excoriations, over the surface of the left tonsil particularly, which were not at all satisfactory in their appearance. There were streaks of blood, and the tonsil presented an unhealthy looking appearance, but still there was no distinct membrane, and he still hoped that the case was not diphtheria. He discontinued the form of gargle which the mother had adopted, and ordered the spray to be used during the day, and prescribed chlorate of potash and muriated tincture of iron to be taken internally every two hours. That evening at about 7 o'clock, there was a distinct, true membrane over the right tonsil, covering the whole of its inner surface. The left tonsil also had some membrane,

although not as much as the right. The first symptom which attracted the mother's attention was the occurrence of a very decided fever coming on shortly after the child had eaten a hearty meal. The child had appeared perfectly well until after dinner yesterday, and about an hour after dinner she seemed to be drowsy, and one of the larger children calling the mother's attention to the child's conduct, she found that she had decided fever. There didn't seem, however, to have been any chill. The fever was variable, coming on and passing off sometimes with slight perspiration. That same condition of things had continued during the day. The fever had been variable, according to the mother's statement. The child at intervals seemed to be drowsy, and at other times bright. The larynx was not at all affected, judging by the tone of the voice. There seemed to be a very slight enlargement of the glands under the angle of the jaw on the right side. There is no discharge at all from the nose, although the mucous membrane seems to be somewhat swollen. The child breathed through the nose but made audible sounds in doing so.

Dr. W. C. Glasgow said that the case which *Dr. Nelson* reported resembled in a great many respects cases that are quite common at the present time. He had had within the past week three cases like this, and they are instructive because they present in some respects a peculiar history. Two of these cases were at the clinic and one in private practice. The one in private practice he had an opportunity to thoroughly study. The boy came to his office Wednesday morning on his way to school; he had been restless during the night, and complained of his throat hurting him. On one of his tonsils was a patch that could not be removed without force. About that patch and on different portions of each tonsil were yellow patches in which were clearly present exudations in the follicles of the tonsil. The boy had no fever but he sent him home. He was called to see him in the evening about 7 o'clock, and found him in bed with a general appearance of congestion of the head. The conjunctiva was congested, and he had a temperature of 102.5° . The patch on one of the tonsils was apparently covered with this exuded material which could be removed from several places. He saw him next morning, and felt uncertain as to what was the nature of the disease; and put him on benzoate of sodium, with grain doses of chlorate of potash, and swabbed his throat out with a mixture of turpentine, chloride of iron and glycerine, with carbolic acid in it.

He also gave him three doses of quinine. In the morning his temperature was 102.1°. This treatment was continued during that day, and the next evening his temperature was still 102°. The treatment was continued during the night, and the next morning his temperature was 99°; that evening (Friday) his temperature was 98.5°. The patches had all disappeared, there were only a few of these yellow spots on the tonsil. Saturday he seemed perfectly well, and ate his meals very heartily. Sunday he was perfectly well, there was no sign of inflammation about the throat, his pulse was regular, and he went to school on Monday morning. In this case the glands of the neck were enlarged, not the glands at the inner angle of the jaw, but the glands immediately to the front on each side. The two cases that came into our clinic presented somewhat similar histories. The first was a small boy who came in with a patch upon his tonsil and one also on the posterior surface of the soft palate. This patch on the soft palate was partly removed. The patch on the tonsil was quite adherent, and refused to be removed, although considerable force was used. There was a good deal of exuded matter about the tonsil, which could be removed; there were also yellowish spots over the tonsils. The mother stated that he had fever and didn't want to eat. The next day this patch on the palate could be removed, but it left a sore with necrosed tissue under it; that is, it bled, and it seemed as if a portion of the tissue had been excised. The same condition of the throat existed without any fever. A few days afterwards the whole thing had disappeared. About three days afterwards his brother was brought in with exactly the same condition of affairs, with a patch on the tonsil which was adherent and could not be removed without force, and when removed, it presented a bleeding surface. This case lasted also about three days. In both these cases there was also swelling about the glands under the jaw, but not at the angle of the jaw. These clinical cases were treated with benzoate of sodium in free doses, and the tonsils were touched with some iron solution. Now the question is whether these cases were diphtheritic in their nature or not. One point about the case was very interesting. There were these yellow spots on the tonsil and also on the pharynx. The glands of the pharynx were enlarged, and in each gland could be seen a yellow spot which looked exactly as if it was going to suppurate. These also disappeared without any breaking of the pustules. These cases would be

considered by some as mild cases of diphtheria, from the fact that the exudation was fastened to the tonsil so that it could not be removed without causing bleeding, and from the general history of the cases with this general enlargement of the glands. He thinks they are cases of simple follicular disease; and the last case, where this same condition existed in the follicles of the pharynx, seemed to prove that fact. The treatment in these cases was given at the suggestion of Dr. Tuholske, who mentioned it some months ago, and it has verified what he claimed for it at that time. It was introduced in Germany by a physician who claimed it to be a specific treatment for the cure of diphtheria, but it probably is not that.

Dr. Tuholske thinks that those cases of follicular tonsillitis in which we have a deposit on the follicles, and afterwards the whole tonsil gradually covering with a thin, soft veil, and finally with a membrane, generally come in with much more "whoop and hurrah," as a rule, than do cases of true diphtheria. The temperature seldom runs so high in diphtheria. There are cases in which the follicles become filled with exudative matter, and afterwards an exudative membrane forms, and, if we can take off that membrane in time, we have no difficulty in making a diagnosis. In cases that we recognize at once as diphtheria, there is not that high fever, nor that very painful deglutition; and, as a rule, we find in diphtheria much greater lividity of the mucous membrane of the throat than in follicular tonsillitis. He had followed a rather uniform plan of treatment, and only a comparatively short time ago, he felt it an absolutely specific treatment for that disease. He had since, however, modified his views to a certain extent. He had seen this treatment fail several times. In a malignant case of diphtheria, the patient succumbed in spite of the treatment. He and Dr. Saunders had used this benzoate of soda treatment quite extensively, Dr. Saunders using it at the Children's Hospital for three or four years. He himself gave benzoate of soda to children in five-grain doses every hour, and if the patient slept over two hours at night, he would give a double dose when the child awoke. The fever can be very readily reduced by the benzoate, and, if we require a little stimulant, we can give whiskey to regulate the heart's action. In the most malignant type of diphtheria, he had frequently seen the membrane disappear under the use of benzoate of soda, and recur when he stopped the remedy, to disappear again upon resuming it. He had been quite successful in the use of the remedy, but having met

with a malignant case of diphtheria, in which the patient succumbed in spite of its use, he did not think it a specific in the treatment of the disease. Ever since that time he had also used bichloride of mercury because of its great germicide action. In addition to the benzoate of soda as above, he uses the bichloride of mercury in young children, giving about 1-60 of a grain every four hours. So far as the local treatment is concerned, he has done nothing to the throat that would have the least tendency to produce a lesion, but, as a rule, has painted the spots with permanganate of potash to the exclusion of everything else. He has only added stimulants as the necessity of the case seemed to demand. The absolute specificity of the remedy is out of the question, but it is of decided benefit in the treatment of the disease. He introduced one of the O'Dwyer tubes rather late in one case of the disease, and, during twelve or eighteen hours the child breathed very nicely through the tube, but it died from an extension of the membrane down into the trachea. This was the only time he had had an opportunity of using the tube, and the only time he had seen the tube used. He hopes it will be used more, because it will have a tendency to settle the question of the curative effects of tracheotomy. The patient will have the advantage of having a tube introduced into the larynx, and is thus given an opportunity to recover, if possible, while at the same time, a surgical operation which might endanger the patient's life will be avoided.

Dr. Prewitt's experience agreed with that of *Dr. Tuholske*. In follicular tonsillitis, patients complain a great deal of headache and backache and aching of the limbs. Diphtheria, as a rule, does not come in with these violent symptoms; it is only after the system of the patient becomes saturated with the poison of diphtheria that we have such violent symptoms. He had used the tube in one case and it was reported four hours afterwards that the child was doing nicely. He had not heard from it since. He was only called in consultation.

Dr. W. C. Glasgow said that he saw the same case 56 hours afterwards and removed the tube, and the child died from congestion of the lungs, and in his opinion, the tube caused the congestion of the lungs.

Dr. Homan asked *Dr. Glasgow* if in such cases as he had reported he would expose other children to the possibility of infection.

Dr. Glasgow said that he had seen cases of diphtheria commence in the same way, with high temperature, general fever and weakness, so that it is impossible to distinguish them, and so long as there is any uncertainty, he thinks it always best, so far as possible, to avoid the exposure of other children to what may possibly be diphtheritic contagion.

Dr. Dixon said that a month or six weeks ago he had a patient with diphtheritic patches all over the tonsil and pharynx, reaching up into the fauces. He gave him seven-and-a-half grains of benzoate of soda every hour with some spirits, and continued the treatment for 36 hours, when the membrane nearly all disappeared; but the patient's pulse dropped to 40, and he then discontinued the benzoate of soda for two days till his pulse reached 90. He then resumed the benzoate of soda, and succeeded in causing the membrane almost to disappear; but it re-appeared again when he discontinued the use of the benzoate of soda; but it finally disappeared altogether.

Dr. Leete suggested, in regard to gargles in cases of swollen or sore throat, that even in the adult, any one who has had any experience in the matter knows that gargling is a very painful operation. He became satisfied long ago that it was not the best method of making applications to the throat either in the child or adult. The best method of making an application to the throat, say for instance, of the chlorate of potash, which is a very cooling, clean and healing remedy in ordinary follicular tonsillitis, he thinks, is to take the powder, and, in order to make it palatable to the child, it may be mixed with a proportion of sugar. The child is generally not very sick with follicular tonsillitis, and it will rather relish administering the medicine himself. The child can take a few pinches when lying down, and let it dissolve slowly in the mouth and flow over the affected part of the throat, and the effect of the remedy is obtained in a very few hours. There is no swabbing, which is a very disagreeable method of administering the remedy.

Dr. Glasgow said there was no question that cases of commencing follicular tonsillitis often run into more malignant troubles. It had been his misfortune to see some cases of this kind. The treatment which had been suggested by *Dr. Tuholske* of the use of benzoate of soda, bichloride of mercury and tincture of perchloride of iron, he did not consider specific in the treatment of diphtheria. He had quite a number of cases one after another, and several in

one family, in which he used, with a good deal of satisfaction, small doses of bichloride of mercury with perchloride of iron, giving it every two hours, and one case after another recovered. He felt very happy, inasmuch as he supposed he had at last found something that would cure these terrible cases. However, he was doomed to disappointment. He saw a patient early in the attack who went on from bad to worse in spite of the treatment, and died. Several cases succeeded with the same fatal result, so that we cannot say it is specific for the treatment of diphtheria. He was forcibly reminded of the evil and possible bad results which might follow applications to the throat of a child, by a case in which he was called to perform tracheotomy on a child which died the next day. In the evening there was some difficulty of breathing. The child's condition, however, was considered very good, considering the severity of the disease. He removed the inner tube, and it went on breathing nicely, turned over and went to sleep. He washed out the tube, and then attempted to re-introduce it. The child struggled fearfully. He had the nurse place her hand under the neck of the child and draw the head back. As the tube went in, there was a struggle, the child's face became cyanosed, and it dropped over dead. It is useless to say what was the cause of death. He had found these struggles to occur very often during the swabbing out of the throat, and he thinks it not advisable to undertake anything which causes the child to make these efforts.

Dr. Homan sees no reason why there may not be mild cases of diphtheria as well as of other affections, why there may not be diphtheroid affections, as there are varioloid and typhoid, and it seemed to him to be to the interest of all concerned, in times like this, to consider that these cases which seem to be tonsillitis are at least suspicious, and we should take the proper precautions accordingly.

Dr. Fry said that the three worst cases of diphtheria that he ever saw get well, did so with the use of chloral. That was the only medicine that was used; but in addition, there was a constant use, almost from the beginning, of large quantities of stimulants, particularly of brandy and whiskey. All seemed to agree in advocating the plentiful use of stimulants and nutrition. He had experienced some difficulty in using as much stimulants as he wanted, on account of the opposition of the family, some of whom do not like to give brandy in the desired quantities. He had seen for the last time a week ago, two very severe cases of diphtheria, one of which

is now suffering from aphonia, paralysis. He was amazed at the quantities of stimulants that these two little babies took.

Dr. Prewitt mentioned a case of what he had considered to be membranous croup that he was called to see three or four weeks ago. The child was very nearly suffocated, but the whole trouble seemed to be with the larynx; there was no trouble in the fauces at all, but the breathing was very labored. There was very little general trouble, and it was said to be a healthy child. He advised the introduction of the tracheal tube, which was done. He saw the child several times the next day, and it was playing about with its toys, and was doing well. The child being in charge of another physician, he discontinued visiting it, telling him that after a few days the tube ought to be taken out. On the eighth day the tube was removed, and the next day the child was doing well. There was no difficulty of breathing. The physician saw the child in the morning, and in the evening the child complained a little and said that it was about to go to bed. It lay down, and the mother went to see it some time after and found it dead. In that case there were no diphtheritic patches to be seen about the pharynx at all; the whole trouble seemed to be in the larynx. There were no symptoms of constitutional affection, no fever of any consequence; and yet the child must have died from something like heart paralysis; it died very easily without a struggle.

Stated Meeting, November 30, 1886, Dr. Maughs in the chair.

On motion Dr. Bauduy Jr. was granting the privileges of the floor to present his experience with a new remedy in the treatment of diphtheria.

Dr. Bauduy, Jr.—I want to speak especially of papayotin and its properties as a solvent of diphtheritic membrane, there being an epidemic of diphtheria prevalent in the city. I was looking over some of Merck's circulars of new preparations, and I came across this remedy, and I determined that when I had a case I would try it. Although a great many remedies have been advocated to effect the solution of these membranes, very few of them, I believe, have been satisfactory. Luckily I got a case and tried this remedy. But I will first mention that papayotin is the active principle of papain. This remedy Merck claims is a solvent of the diphtheritic membrane and croupous membrane. It is an astringent, it is bitter, transparent

of a garlic color and of a rather disagreeable odor. In hot water it is barely soluble, but in cold water about 1 to 10 it is so. Merck also claims that papayotin is similar in its action to pepsine, that is, that it has digestive powers. He claims also that it is not an escharotic. By adding to the solution of papayotin lactic acid its digestive powers are increased, and he recommends it in gastric troubles. In the Dispensatory it is doubted whether it is an escharotic or not, but Merck claims it is not. When I saw this case of diphtheria, I first tried the extract of pancreatine and bicarbonate of soda with no result. I tried about two days afterwards, as Merck suggests, a five per cent solution of papayotin painted upon the patches, iron had also been tried on these patches with no effect. Now we began on the third day with a five per cent solution of papayotin painted as he recommends it upon this patch every 5 or 10 minutes, but as this caused some irritation, I recommended it every 15 or 20 minutes. The painting was done with a camel's hair brush, and was performed by the mother according to directions. The membrane had been confined to the uvula, and in 6 or 8 hours I came back and found that the membrane had been entirely stripped off. Now Merck claims that papayotin will digest any dead substance, and consequently these membranes, but that it is not an escharotic to the physiological membrane. It seems that the manner in which the membrane had been stripped off was that it stuck to the brush and came off in that way, little portions of the membrane becoming detached and being brushed away. As I said before, it is barely soluble in hot water, but it is soluble in water from 1 to 10, and the patient complained a good deal of the stickiness, etc., and the brush became hard when exposed to the air. Of course I tried this in only one case, and we can hardly estimate its value from its use in a single case; still I thought it would be of interest, and I would recommend it to such of you as are treating these cases.

Dr. Love:—Expecting that diphtheria was to be discussed to-night, from the notification which I received, I came out hoping to hear a discussion. I am very glad to have heard the report which has just been made. I should think from the result which has been reported it would be well worthy repeated trial. The paper of Dr. Alleyne was a very interesting one and a very practical one, and as I recollect, his treatment was almost entirely by the use of mercury. He stated that he considered that his sheet-anchor—mercury in the form of mild chloride, or calomel. His conclusions and

practice in this particular direction recall to my mind a pointed and positive paper of Dr. William H. Daley of Pittsburgh, an expert and specialist in throat troubles, who has had a large experience. The paper was written something near a year ago, and published in the *New York Medical Journal*, and his treatment was especially calomel, and I took it that the sentiment of this author and of the essayist at our last meeting was in that direction, that the principal treatment was constitutional. It is especially a constitutional disease. As I recollect the points in Dr. Daley's paper the amount of calomel and the frequency of the doses was enormous, a grain or two grains at a time frequently given, every hour or two, and kept up. He suggested not to be afraid to give it. My own experience in the treatment of diphtheria favors the mercurial treatment. However, for two years past I have given the bi-chloride of mercury, and prefer it in that form. It can be given in infinitesimal doses largely diluted for small children; it is almost like giving no medicine at all. I give it internally and locally. I believe that in its action it is an antiseptic and germicide, and it is especially a stimulant to the secretions of the excretory organs, and I believe that in all diseases of a septic character a stimulation of the excretory organs is essential. It assists in the elimination of the products of the disease, of the effete matters, and at the same time it is an antiseptic, and attacks germs with which it comes in contact; it renders the membranes innocuous. More than that my experience in the past two years has been that where given promptly and regularly and systematically, it is very efficient in this trouble. I have found that where it is given, there is always a thoroughly moist tongue, and if the membrane appears at all, it is essentially moist; that has been my observation. Before I used this remedy, when I gave quinine in large doses, which I don't now give at all, when I made irritating applications, which I don't use at all now, there was a dryness of the mucous membrane, there was an irritating condition of the throat that was much more unfavorable, and there was frequently a well organized membrane. I lost cases. I repeatedly had cases where the membrane appeared and softened and broke down and disappeared and the patient was doing well apparently, and again after a few days of convalescence the membrane would appear again. I recollect one case of a beautiful boy where this was the history. A membrane appeared three different times. It was in the pharynx each time of

its appearance. The boy was apparently convalescing, the last time that it appeared when it came in the larynx. Now it may be that since the adoption of this plan of treatment I have had a milder class of cases to deal with. I know that that sometimes is the case; yet from all appearances the cases have been quite as severe as those we have formerly met with and the results have been very decidedly better. I have observed since the adoption of this plan of treatment that the glandular engorgement about the throat, the sublingual and submaxillary glands, has not been as great, showing that the constitutional effect was not as great as under the previous treatment. More than that by watching carefully and administering the remedy intelligently, as I have done in each case, and by paying careful attention to the nutrition of the patient, where paralysis has occurred, it has been very mild in character and very much sooner recovered from, indicating the fact that the constitutional disturbance was not as great. I will say that in addition to the administration of bichloride of mercury and of nutrition, my treatment is whiskey in large quantities. Aside from whiskey being an antiseptic, local and general, I think it is antagonistic to special poisons. I administer it in typhoid fever, diphtheria and certain conditions of scarlet fever in large quantities, very much as I would treat a snake bite, keeping them drunk on it, and it is astonishing the enormous quantities of whiskey that the patients will bear under this abnormal condition; they will bear three, four or six times as much as they could under conditions of health. Certainly my experience has justified me in believing that this is the treatment in diphtheria. Then I think that a very important matter in the local treatment of diphtheria is watching and keeping open the nasal passages. Frequently the membranes pass upwards and cause an inflammatory engorged condition of these passages, which it is very important should be kept open. During the administration of this remedy it is rarely necessary to give anything to keep the bowels open.

Dr. Bauduy, Sr.—I did not have the pleasure of hearing Dr. Alleyne's paper, but it seems to me, with the views that I hold, it is incumbent upon me to enter my protest against the views expressed by Dr. Love in regard to the treatment of diphtheria. It seems to me inconceivable that such a grave and serious disease as diphtheria should be treated by producing a dyscrasia almost as serious as diphtheria, namely, mercurial dyscrasia. I think in the cases

which the doctor was fortunate enough in saving, that they lived in those particular instances as the result of antidotal treatment with whiskey and good nourishment, to which the doctor seems to attach so much importance. In other words I believe that in all probability the patients would have perished if it hadn't been for these antidotal remedies. I cannot believe that a remedy of such power as mercury, a remedy which produces such disintegration and a remedy which has power of promoting one of the greatest dangers of all blood poisons, as for instance, a hemorrhagic tendency, the result of the defibrination of the blood, can in any way favor the diminution of such a powerful poison as we find in diphtheria.

ST. LOUIS MEDICAL SOCIETY.

Stated Meeting, Nov. 6, Dr. Gregory in the chair.

PATHOLOGICAL SPECIMENS.

Dr. Stevens exhibited a specimen to show that in the famous case of Mary Dugan, wherein the whole country had made diagnoses, some of femoral hernia, others of typhlo-enteritis, it was a femoral hernia.

Dr. Dalton showed a lobulated healthy kidney and also a specimen illustrating abscess at the base of the tongue.

Dr. Hulbert read a paper (vid. Jan. COURIER) entitled:

"GALVANIC AND FARADIC ELECTRICITY IN GYNECOLOGY."

Dr. Hughes said that conditions elsewhere cured by electricity had their analogues in the pelvis. The relations of the ganglionic system to the vascular system in the pelvis were very intimate, congestive conditions following vaso-motor paresis, and as the different electric currents controlled the vessel constrictors, it was easy to understand the beneficial results, and why such cases passed out of the hands of the gynecologist uncured, to be cured by the neurologist.

When females with intra-pelvic disease became insane, it was often decided that the pelvic trouble had caused the cerebral trouble, whereas the real fact was that the pelvic disease was, like the cerebral disease, an effect of the same nerve lesion. Such patients were often sent out of the asylum cured, without local treat-

ment, but with treatment directed to the nervous system, such as tonics and especially electricity. He thought electricity essentially a sedative.

Dr. Wm. Johnston differed totally from *Dr. Hughes*. He thought it a stimulant, and that consequently its effect on the weakened muscular coats of the congested arterioles would be like exercising an overworked arm, namely, to further increase the parietic condition.

Dr. Engelmann acknowledged that neurologists had drawn the attention of the gynecologists to the use of electricity in pelvic disease, but that it was only since the latter had pursued totally different methods from those advocated by the former, that any degree of success had been attained.

He thought both gentlemen correct, for the agent was a sedative or stimulant, according to the method of application. Quite different effects were attained, depending on the kind of electricity, the size of the electrodes, the quality and strength of current, duration of application, nature of pole applied, etc., etc. In a word, he thought precision of detail and the methods employed made every difference. It was, for instance, both a hemorrhage arresting and a hemorrhage producing agent, both stimulant and anodyne.

Statistics based on the use of electricity were conflicting, simply because nearly every one used it without standard rules. The dose and method should be accurately reported. One could gauge the dose almost as closely as one measures a dose of quinine.

Dr. Dean was of the same mind as the last speaker. There was, no doubt, more quackery, humbuggery and ignorance displayed in the use of electricity than of any other single therapeutic agent.

Many, at first enthusiastic in its praise, became afterwards discouraged, and reviled and threw away their battery. This uncertain element of value resulted from unscientific and chaotic methods of employment. The cathode is an anodyne or irritant, entirely dependent on the pleasure of the operator. Reports on treatment by electricity should always state the measurements of the electrodes and the dose in milliamperes. The size of the cathode made a very important difference in the therapeutic result. He had controlled a case of uterine hemorrhage which had lasted four months with the battery, where the curette had failed. Electricity in the hands of one skilful in its use covers a large field

of usefulness. No one was competent to decide on its merits without an accurate knowledge of the many details of method of procedure.

Dr. Hughes said it was demonstrated, and by everyone admitted, that electricity stimulated the vaso-motor constrictors to activity, and as congestions and hyperemias meant vaso-motor dilatation, it was easy to understand how the electric current accomplished good. With the relief of such a congestion, naturally followed a relief to pain; and this was the explanation of the anodyne effect of a current.

Dr. Hulbert thought that the technique of the administration of electricity, the kind of current, the size of electrodes, etc., demanded a paper for itself.

Stated Meeting, Dec. 13, Dr. Gregory in the chair.

EPITHELIOMA OF THE TONGUE—GONOCOCCI.

Dr. Bremer reported that a microscopical investigation of *Dr. Dalton's* specimen of supposed abscess at the base of the tongue proved it to have been an epithelioma. He also reported two cases of gonorrhea in the male, in whose secretion he had discovered the gonococcus. In both the discharge had lasted two days, and the microscopical search was instituted on the fifth and sixth days respectively after suspicious intercourse.

In both urethræ he made a single injection of two drams of corrosive sublimate, 1 to 500. There continued in both a slight purulent discharge with painful micturition for twelve hours after the injection, but no gonococcus could be found, and both patients on the next day found themselves cured, and have remained so.

Nothing could be formulated from two cases. Perhaps the injections had been made in the nick of time. The effect was marvellous. In reply to a question by the president, *Dr. Bremer* announced that he had used an ordinary glass syringe.

Dr. Dean had during ten years of service in the city hospital seen about six thousand venereal cases, and he had always forbidden the use of acrid injections such as the old favorite of sulphate of zinc and acetate of lead.

He had used sublimate injections in two cases in private lately, in one without success and in the other with success.

Dr. Ohmann-Dumesnil had been very successful in the use of

sublimate injections in gonorrhea. His cases recovered within ten or fifteen days so completely that the slight mucous discharge due to atony of the urethral membrane, so often occurring after purulent secretion has been arrested, did not occur. He used it 1 to 1500 in cold water. No other treatment was necessary.

Dr. Borck remarked that dissolved in warm water and thus injected it was far less irritating.

Dr. Hulbert wished to know concerning the length of life of the gonococcus. It was at one time agreed that gonorrhea was a self-limiting disease. The disease was of vast practical importance to the gynecologist, since many believed that the sequelæ of gonorrhea in the female were very frequently pyo-salpinx, metritis and other serious affairs.

Dr. Bremer replied that the gonococcus had been found years after the gonorrhea, deeply imbedded in the mucous membrane, and difficult to dislodge, so that its existence was indefinite. It proliferates by fission, one becomes two and two become four, and so on, indefinitely.

The same gonococcus does not, of course, live long, but some part of the parent is found in the offspring. A physician in New York had first pointed out that the majority of cases of metritis in young women had their origin in gonorrheal infection, and that many obscure diseases of women, such as sudden breaking down after marriage, were due to the gonococcus. This explains many cases of diseases of the uterus and appendages which were formerly attributed to taking cold, difficult child-bed, etc.

In pyo-salpinx and metritis and quite a number of obscure neuroses of the ovaries, it has been demonstrated that the gonococcus plays an important role.

In answer to a question, *Dr. Bremer* remarked that each germ always kept its morphological and pathogenetic features peculiar to itself. The gonococcus always produced gonococci, the germs of putrefaction would not produce tuberculosis. Gonorrhea was always due to gonorrhea, never, for instance, to leucorrhea.

Dr. Lutz reminded the members that it was necessary to consider two elements in treatment. First, the parasite, and secondly, the inflammatory disturbances it created, such as cystitis, pyelitis, epididymitis, etc. The fever and acrid urine required constitutional treatment. Local treatment would perhaps in the first day or two be sufficient, but after a few days, when the secondary con-

sequences of the gonococcus produced inflammation and constitutional disturbance, this would not be sufficient.

Dr. Wm. Johnston warned medical men from swallowing greedily new medical propositions.

Dr. Hulbert spoke of the difficulties of diagnosing gonorrhea in the female. He had seen as many cases without as with urethral involvement. He thought the vagina a better field for the gonococcus than the urethra. He was not prepared to believe the statement that the majority of cases of metritis and pyo-salpinx were due to gonorrheal infection. This might in a medico-legal view be often a question of the highest importance. That such was often the case he did not doubt. He had made a post-mortem in the case of a young woman, who had entered hospital with a gonorrhea, and who died from septic poisoning, and found violent inflammation from the vulva to the fimbriæ of the Fallopian tubes, a condition which would have resulted in pyo-salpinx. He had now a case which he was sure was consequent on puerperal sepsis, not on gonorrhea.

Dr. Dean stated that the microscope would at once clear up a doubtful case, and advised the last speaker and all others to learn to use it, since it settled so many doubtful matters.

Dr. Bremer did not wish to be understood to say that every case of pyo-salpinx was due to a gonorrhea. It might be due to various septic conditions. He only wished to emphasize the fact that the gonococcus explained many hitherto obscure cases of pyo-salpinx. He remarked that the germ was difficult to find in women. It was necessary to scrape the mucous membrane and look for the parasite in the deeper layer of the epithelium.

Stated Meeting, Nov. 20, Dr. Gregory in the chair.

HYDRO-SALPINX—MISPLACED KIDNEY.

Dr. Fry showed a specimen found in the dissecting room, of a womb in whose broad ligaments could be seen symmetrically arranged cystic developments, the absolute symmetry being the interesting feature.

He exhibited another specimen of congenitally misplaced kidney. It hung into the pelvic cavity, lying to the left and in front of the sacral promontory. Its vascular attachments, its relationship to the peritoneum and its attachments posteriorly proved it not

to have been a floating kidney. It was smaller than its fellow, which was in every respect normal. Its suprarenal capsule was, however, fully developed and derived its vascular supply from the aorta.

There existed some confusion in literature concerning the two conditions—misplaced and floating kidney.

Dr. Bond thought the misplaced kidney had created no abnormal signs during life and that the uterine specimen represented hydrosalpinx.

Dr. Stevens, while in control of a dissecting room, had found that departures from the normal with regard to the kidneys were very common. He had once seen two separate small kidneys on one side and a large one on the other. No other organ in the body was more frequently anatomically abnormal, especially its vascular supply. A specimen at the St. Louis Medical College Museum showed two renal arteries going to the left kidney.

Dr. Hulbert had found in a cadaver four kidneys, two on either side. There existed but one renal artery for either side, but each before reaching the kidneys bifurcated, a branch going to each.

Agreed with *Dr. Bond* in the diagnosis of hydro-salpinx: more thorough dissection would be necessary for accurate diagnosis. The mere shape of the parts, however, when extended indicated tubal disease.

He had not found tubal disease to be common in hospital experience.

The most characteristic sign was the sausage-like tumor to be felt lying on either side of the uterus. Pelvic cellulitis often complicated these cases, and until the infiltration from this disease was disposed of, it was not possible to define the sausage-like tumors. The mobility of the parts he had also found of great aid in differential diagnosis.

Dr. Ford thought the diagnosis of hydro-salpinx, pyo-salpinx and suppurative peri-ovariitis a difficult matter, and had found aspiration of great service. In one case he had passed a needle up through the right fornix of the vagina, and demonstrated suppuration about the ovary. Extravasations of blood in this neighborhood, for instance, into the layers of the broad ligament, added to the difficulties of diagnosis. Great care must be exercised in this procedure, as well as in the use of the knife here. It was easy to wound the ureter, and thus establish a urinary fistula, for which it might be necessary to extirpate the kidney.

Bi-manual exploration, with one finger in the rectum, made out the tumor more readily than vaginal exploration. But the aspirator was of even greater diagnostic importance.

He had found no difficulty in aspirating the tubes. In one case he had thus emptied a peri-ovarian abscess three times in the same patient.

Dr. Hulbert had aspirated once, and removed two ounces of pus from a tube. He thought the objection to aspiration urged by some in pelvic tumors, namely, that it increased the difficulty of a subsequent extirpation by creating adhesions and lessening the size of the growth, to be without foundation.

□ He related his first experience with pyo-salpinx. A woman was admitted to the hospital with intermittent fever on recovery from which she drew attention to a womb trouble. An examination revealed what the doctor presumed to be pelvic cellulitis. The sausage-like formation was not present. Shortly afterwards the patient experienced intense pain in the abdomen, and an enteritis was diagnosed. Death occurred on the third day. A post-mortem revealed intense enteritis and a large pyo salpinx. The abscess cavity was filled with thick, grumous pus and no point of rupture could be found. No peritonitis was found.

Dr. Bond called attention to the fact that *Dr. Paul F. Mundé*, of New York, had devised an instrument for the purpose of aspirating through the fornix vaginæ, and had so far seen no ill consequences from aspiration. This does not, however, remove all difficulty, since *Lawson Tait* and others declare that no evidence at the present day exists whereby one can determine from the fluid whether it comes from a hydro-salpinx or an ovarian cyst. The determination of the existence of pus in the pelvis is, however, of great importance, and this the aspirator can do, as well as remove it.

VIABILITY OF A FETUS.

Dr. Lee reported a case wherein the viability of a fetus had become a medico-legal question involving property rights. The mother three days after a miscarriage died. It was a matter of uncertainty as to the age of the fetus, it only being known that gestation was not later than the sixth and not earlier than the fourth. The physician in attendance seeing little or no sign of life in the fetus, carelessly paid no further attention to it. The hus-

band afterwards in endeavoring to establish a claim to a life interest in his wife's estate, assumes that the child was alive. The question at issue is, therefore, concerning the viability of a child, born between the fourth and sixth months of gestation.

Dr. Stevens urged that the whole question hinged on an examination of the organs of respiration. As in cases of infanticide, the question of viability was to be settled by the condition of the lungs.

Dr. Wm. Johnston had lately attended a lady in miscarriage at the fifth month according to her own intelligent observation, and yet the child had lived two months.

NATURE OF PAIN.

Dr. Dean drew attention to the Mortimer Granville theory of the explanation of pain, that it consisted in an abnormal vibration of molecules in the nerves. He had thereupon invented an instrument which, being brought in contact with the painful nerve, produced vibratory motion in the nerve, and restored its normal vibratory equilibrium. Dr. Granville claims to have been thus quite successful in the treatment of neuralgias. He assumes that acute pains represent very rapid vibrations, and he produces slow vibrations in the nerves to equalize and thus produce normal vibrations. Deep seated and dull pains represent slow vibrations and are healed by rapid vibrations.

Dr. Dean thought that perhaps the anodyne effect of electricity could be thus explained.

HORSEFLESH AND OTHER MEATS AS PUBLIC FOOD.—Experiments made by Decroix have shown that horseflesh is a wholesome and available food; that in time of need the flesh of animals perishing from non-infectious causes may be safely eaten; that, of course, infectious disease makes flesh unfit for food, while the author thinks medicaments have no bad influence. The author thinks that a single meal of the flesh of animals which died of glanders or rabies (as would happen accidentally) would be without injury; the efficient means of destroying most poison is thorough cooking. The author's conclusions are based on the observation of the extensive use of horseflesh in France, and on thorough experiments with diseased meats on the human subjects.—*Fortschritte der Medicin*, November 1, 1886.—*Med. News*, Dec. 11, '86.

NOTES AND ITEMS.

STYPTIC PAPER, much used abroad, though but little known here, is a new modification of medicated organic matter. It is made by mixing with the paper pulp (during the process of manufacture of this material) some solution of ferric chloride, and carefully drying the product, or, in place of the iron solution, another variety is made with tannic acid. The proportions needed are about one part of iron solution to an equivalent of pulp that will yield four parts of dry product, or, if tannic acid be used, one part of the acid to make eight parts of finished product. When made on the small scale, white absorbent (or blotting) paper may be used and made into a pulp, to which the astringents are added, and then carefully dried. It forms an excellent means of stopping bleeding by simply binding on a small quantity of the prepared paper.—*Pharmaceutical Record*.—*Med. News*.

VEGETARIANISM as a doctrine, has had its day. The vegetarian diet is properly a cure. It is useful as a change, and is a cure for one form of dyspepsia, for gout and biliousness. It may be tried with advantage in summer to counteract the evil effects of too much good living in winter. The milk diet or "dairy fare" is a return to nature by another path. Fever patients arriving at Bellevue are put exclusively on milk. The organism, much reduced, comes down to first principles and begins life over again.—*Jour. of Reconstructives*, Oct. 1886.

DIABETES IN CHILDHOOD.—Dr. A. Winckler reports a case of diabetes in a child of four years old. (*Munch. Med. Woch*). There was a hereditary predisposition, as another member of the family had been affected with diabetes, but the great quantity of sugar which had been given to the child certainly hastened the development of the disease in this case. Cantani has stated that 90 out of 218 cases of diabetes are due to sweet and farinaceous food.—*Brit. Med. Jour.*, Nov. 20.

VACCINATION IN THE ARMY.—We gather the following from the report of the Surgeon-General of the Army for the year ending June 30, 1886:

Primary vaccinations:				No.	Per cent.
Successful	-	-	-	487	35.6
Unsuccessful	-	-	-	729	53.2
Not determined	-	-	-	154	11.2
				<hr/> 1,370	<hr/> 100.0

Re-vaccinations:					
Successful	-	-	-	1,642	22.0
Unsuccessful	-	-	-	5,011	67.0
Not determined	-	-	-	822	11.0
				<hr/> 7,475	<hr/> 100.0

Comparing the results from bovine and humanized virus the following figures are given:

Bovine virus; primary				No.	Per cent.
Successful	-	-	-	336	37.2
Unsuccessful	-	-	-	527	58.4
Unknown	-	-	-	40	4.4
				<hr/> 903	<hr/> 100.0

Ditto; re-vaccinations:					
Successful	-	-	-	1,247	25.0
Unsuccessful	-	-	-	3,204	64.8
Unknown	-	-	-	491	10.0
				<hr/> 4,942	<hr/> 100.0

Humanized virus; primary:					
Successful	-	-	-	95	40.3
Unsuccessful	-	-	-	140	59.3
Unknown	-	-	-	1	0.4
				<hr/> 236	<hr/> 100.0

Ditto; re-vaccinations:					
Successful	-	-	-	254	16.9
Unsuccessful	-	-	-	1,237	82.1
Unknown	-	-	-	16	1.0
				<hr/> 1,507	<hr/> 100.0

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ORIGINAL ARTICLES.

SOME OF THE PRACTICAL RESULTS OF OUR CRIMINAL LAWS FROM A SANTARY STANDPOINT.

BY R. HARVEY REED, M. D., MANSFIELD, OHIO. *Sec'y Ohio State
Sanitary Association.*

[*Read before the Fourth Annual Meeting of the Ohio State Sanitary Association, Columbus, Ohio, Feb. 10, 11, 1887.*]

IT IS simply appalling to read the daily records of crimes committed throughout our country, and still more terrifying when we compare the convictions for crime with the whole number of crimes committed.

What safety is there to the general public when men and women are ruthlessly murdered by desperadoes for a few dollars, or shot down in cold blood for only aiding in securing the intended justice of our laws?

When railroad cars are invaded and their passengers robbed, or their express messengers shot, and their valuables plundered and taken; when officers are mobbed and shot down by gangs of desperadoes for trying to do their duty, or as in the case a few mornings ago when a train was invaded and a captured pall forcibly taken from the officers in charge at the peril of hu-

man life; when even a President's life is in danger for not complying with the desires of some crazy office seeker?

What does all this ruthless and premature destruction of human life mean?

It means that there is something wrong somewhere, and that the practical results of our criminal laws are not what they ought to be.

Only a few days ago, I read in some paper the following proportion of arrests for assault and battery, in thirteen of our leading cities, to their whole number of inhabitants:

	One for every						
Cincinnati, - - - - -	-	-	-	-	-	-	4,476
Columbus, - - - - -	-	-	-	-	-	-	2,466
Providence, - - - - -	-	-	-	-	-	-	582
Chicago, :	-	-	-	-	-	-	504
Philadelphia, - - - - -	-	-	-	-	-	-	292
Brooklyn, - - - - -	-	-	-	-	-	-	257
Springfield, - - - - -	-	-	-	-	-	-	228
New York, - - - - -	-	-	-	-	-	-	196
Buffalo, - - - - -	-	-	-	-	-	-	174
Boston, - - - - -	-	-	-	-	-	-	133
Albany, - - - - -	-	-	-	-	-	-	116
Baltimore, - - - - -	-	-	-	-	-	-	103
Washington, - - - - -	-	-	-	-	-	-	.69

It is true, the vigilance of the officers of a city, and the construction put upon the statutes as to what shall constitute "assault and battery," would modify the statistics of arrests for that grade of crimes; yet making a liberal allowance for all these, the ratio of crimes to the population as shown by the arrests made, which does not include the large number of crimes of the most diabolical character that are annually committed but escape the action of law entirely, is such that we may well call the attention of sanitarians to these facts, and inquire into at least some of their causes, and seek for the best remedies for their prevention. Crime is largely induced by two leading factors, selfishness on the one hand, and the possibilities of escape from justice on the other.

The former may exist in a variety of forms, and be induced

by a multiplicity of circumstances; but the latter is dependent largely on the perfection of our criminal laws and their execution.

The New York *Independent* has at different times taken strong grounds that "Lynch law" should be forcibly suppressed by the prompt and fearless execution on the scaffold of every person connected with its deplorable practice; but much as we despise the principle and practice of "Lynch law" we do not believe the course advised by the *Independent* would either be practicable or advisable.

We must take humanity as it is, and not as we imagine it should be, and just as long as criminals who are guilty of capital crimes are not only protected by the wily constructions placed on legal technicalities, and their merited punishment delayed for even months and years at an enormous expense to the honest and law-abiding taxpayer, or even acquitted through a "fixed" or sympathetic jury, or by the scheming shrewdness of some criminal lawyer, just so long may we expect prompt justice to be sought by an exasperated and abused community through the powers of the "Lynch-law."

Let a murder be committed in a community and at first every paper "in the region round about" joins in denouncing the perpetrator as a scoundrel and demands his prompt execution, but time rolls on, even if captured, and placed in the hands of the law, he must be given a preliminary hearing and be "bound over," if supposed guilty. Then he lies around in jail month in and month out, at public expense. (provided he is unable to procure bail); time after time the case is called, and continued because somebody who is supposed to be an important factor in the case is away, or sick, or a dozen other excuses are raised to delay prompt justice, for well do our legal brethren know the value of public sympathy, and the frailty of human nature and loss of memory, which is nourished by delay, all of which adds to the criminal's chances for escape. Meanwhile sympathetic interviews are had and published, and the once despised desperado becomes the hero of the hour, while all the horror of his atrocious crime is dimmed by time and painted with sympathy until the innocent blood that stained the floors of a once happy home is almost forgotten and the widow and fatherless children, who appear as

prosecutors praying but for simple justice are even looked upon as his persecutors.

How many murderer's can we count on our finger's ends, who have thus escaped their just doom, and are running at large to-day, or will soon have paid the paltry penalty imposed on them in the state prison, or be pardoned by a sympathetic governor, and let loose, to return as the heroes of a sensational tragedy?

Only a few days ago, I was told by a medical friend from a well-known city in the central part of this state of just such a case, where a man who had deliberately committed a prearranged, diabolical murder and accomplished his end, was tried after the usual delay of law, and acquitted, and is running at large to-day in defiance of our law.

Of all the cases that have been tried in our county for murder only one has been found guilty and had justice measured out to him, and he was a colored man. But our county is not the exception. I dare say there are few counties in our state that cannot, if they will will, rake up similar records in their court proceedings in criminal cases.

We have thus far only been discussing some of the practical results of our criminal laws as they affect criminals who have been captured, but how do they affect the criminal who is still at large and *asstst* in his capture?

All that is necessary to prove that they are not what they should be, is for each of us to go back for a moment to our own and neighboring counties, and count again on our finger ends, the murderers who have committed their foul deeds and escaped unharmed, yea, even from suspicion or detection.

It is reported on good authority, and I blush to repeat it, that a score of murders have been committed in Richland county alone with but one arrest and conviction, several of which occurred within the last few years and *every one* without the detection or the arrest of the murderer. Yet I know Richland county, while bad enough, does not stand alone on the black list of the criminal records, of capital crimes.

What effect have our present criminal laws on the prevention of abortion?

What percentage of practical abortionists are ever convicted and found guilty of murder in the second degree when tried, of the number who are annually, and almost defiantly pursuing this foul and murderous occupation for the gain thereof?

In an editorial by Dr. Baldwin, of Columbus, Ohio, in the *Columbus Med. Journal*, Vol. II., page 573, under the title "Is conviction for abortion possible in Ohio," he says: "Three cases which have recently occurred in this city have resulted so disastrously for the State, that physicians, it would seem, need no longer be deterred from producing abortions by any fear of legal processes. Moral motives may restrain them, or 'the fear of something after death,' but they need not fear the law, while public sentiment has long since ceased to condemn, except under very aggravating circumstances."

In this same editorial the doctor goes on to say that "four years ago, a doctor in this city was arrested on the complaint of a young woman, on the charge of having produced an abortion on her." "The doctor lay in jail all summer, being unable to furnish \$500 bail. At the end of this time, when his case came for hearing, his victim refused to appear against him, and he was discharged."

"Two years ago," he says, "a married woman, a few hours before her death, made a 'dying declaration' in the presence of her two physicians, the prosecuting attorney, and others. She charged a certain doctor with having produced an abortion on her, and described, with the minutest detail, her visit to his office, which she made alone, and his method of operation, with the instrument used. The autopsy, performed a few hours later, confirmed her statements as to an abortion having been attempted, and showed that death had resulted therefrom."

Suffice it to say the doctor who did all this for \$5 was arrested, and discharged] "scot-free." A year later another young woman is reported, by the doctor in the same article, of having died from the result of an abortion. The abortionist was arrested, and notwithstanding "the chain of evidence seemed to be perfect and unyielding at every point," and "the general reputation of the doctor for this kind of work was such that his attorneys made no attempt to prove his previous good character," and yet "the jury returned a verdict of acquittal."

Dr. Baldwin says in conclusion : "First. If the abortionist does his work, his victim alone being privy to it, he is safe; for if she lives she will not inform against him, while if she dies, her statements are entirely worthless as evidence. Second. If others are privy to the act, the prosecution must prove that the fetus was actually *living* at the time of the operation; and this, at least until after 'quickening,' and even then only on the testimony of an expert making an examination at the time, which is of course impossible."

These cases and similar ones could be duplicated by the scores, if necessary, but the few we have given are certainly sufficient to satisfy any unprejudiced mind that our criminal laws on this point are also defective and need some amendments.

But when we know, or at least have every reason to believe, these cases of criminal abortion could be counted by the thousands if not tens of thousands throughout our country, that either go without even suspicion or detection, or, as we have seen by the above, when they are detected are simply winked at by the law—in a manner they dare not mock justice in cases of murder in the first degree "so-called," yet in common experience crime does *practically mock* her, even with apparent impudence, more or less in all these cases—we are led as sanitarians to hoist the red flag of danger and call a halt long enough for reflection, if we can't get anything more.

But some one says what has all this to do with sanitary work? We answer, the first duty of a sanitarian is to save human life, and the second to prevent human suffering.

It is certainly evident that the practical results of our present criminal laws are such that justice is not only delayed, but in many cases *thwarted* in the prosecution of criminals for murder in the first degree, and in some, yea, *many* instances, the murderer in reality becomes the hero of the hour, thus putting a premium on murder, and giving encouragement, rather than deterring the vicious from their cruel purposes, which is still more encouraged by the multitude of chances for their escape entirely without even arrest, which aids in multiplying our murders, and thus increasing, rather than diminishing, the loss of life from these causes.

The practical results of our criminal laws are still more deficient in cases of infanticide and abortions than in murder of the first degree, which added to the former swells the mortality records from these sources to such alarming proportions as to call for reform of the criminal laws of our state; and not until then can we expect to prevent "Lynch-law," or secure justice in all its details in our criminal courts.

Let us have a law that will compel the trial of a criminal arrested for murder, within thirty days after his arrest, give it precedence over every thing else, try him while the deed with all its horrible facts is fresh in the minds of witnesses, try him promptly, fairly, candidly, and allow nothing to retard the promptest dispatch of justice, and when convicted and found guilty, compel him to be executed in not exceeding thirty days, and you will find that more murderers to the number arrested will be convicted, and fewer murders committed.

Instead of waiting for the slow tardy action of county commissioners or other local authorities to offer rewards for the capture and conviction of criminals, have a standing liberal reward offered by and under the authority of the state for the arrest and conviction any murderer of the first degree committed in the state, and made chargeable against the county in which the murder was committed, and in this way you will get prompt and efficient service in every instance; yea, and further, if necessary, have a central authority in the state which shall have the power to employ detectives to hound down every murderer who commits such a crime in the commonwealth, and instead of depending on the unskilled officers of a county managing the capture of these criminals, who, as a rule, are skilled in their part of the work, have at the state's command a few of the best skilled detectives money will procure, whose duty it shall be to ferret out all criminal cases occurring in the state, and to use every means possible to arrest and convict these outlaws in the promptest manner possible, and thus protect and save human life in a manner and with a certainty which under our present unsystematized methods would be and is practically impossible.

In the protection against criminal abortions, we should purge our present statutes of all those technicalities that now stand as

so many open doors for the ready escape of the vilest and most daring criminal, regardless of overwhelming evidence as to his guilt, of these loathsome and pernicious practices, and instead close every avenue of escape, and measure out to the guilty his due portion of punishment without fear or favor.

Then as sanitarians who have the protection of human life and the prevention of human misery at heart, let us seek to find a remedy for all these existing defects in our criminal laws, and thus prevent the practical results that now follow them as natural sequelæ, and instead so modify our criminal code as to make it a real practical supporter instead of a *mock*er of prompt and impartial justice.

In this way, and only by such means can we expect to reduce the annual number of premature deaths that now are caused by the red hand of the daring assassin, and at the same time put an end to the practice of "Lynch Law," with all its horrors and dangers of rash and unwarranted executions, and meanwhile prevent the merciless slaughter of thousands upon thousands of helpless infants annually by the foul hand of the abortionist.

Then I ask you, brother sanitarians, is there not a wide field for you and me to join hearts and hands upon in this direction alone, that merits our attention and warrants our support ?

Is not system on the part of the state as essential in the capture of criminals who are guilty of capital crimes in our midst, as it is in our military practice for protection against invasion from abroad, or the suppression of riots within our own borders ?

The one is for the maintenance of our rights, and the protection of life from an organized and out-and-out foe; while the other seeks protection from the skulking and unsuspected assassin who pretends to be our friend only that he may take our life and escape justice unharmed and unsuspected.

Then, gentlemen, if our cause is just and right, why should we not "pool" our efforts to secure the enactment of such laws as will provide the best protection against that which God only can give, and no man should be allowed to take away.

Feb. 10 1887

GALVANIC AND FARADIC ELECTRICITY IN THE
TREATMENT OF UTERINE DISPLACEMENTS.

GEO. J. ENGELMANN, M. D., ST. LOUIS, MO.

[Read before the St. Louis Obstetrical and Gynecological Society, Jan. 19, 1886.]

[CONTINUED].

CASE I.—*Anteflexion*. Miss C., æt. 26. Anteflexion, endometritis, metritis, and remnants of chronic ovaritis and perimetritis, low form of chronic cystitis due to pressure of the uterus on the bladder, frequent and painful micturition, dysmenorrhea.

I mention this case, because it is typical of the most annoying form of anteflexion of long standing, the uterine tissues hard, indurated, and the organ held in its abnormal position by the contracted thickened ligaments, and because I, myself, had tried treatment by other methods, and did not resort to electricity until I had exhausted the known remedies.

Patient came to me in June, 1885, in a debilitated condition, harassed by menstrual suffering and pain which accompanied frequent micturition, excessively nervous, in fact so seriously was her nervous system affected that her condition was one bordering on mental disturbance. She had been under the treatment of able physicians for the most annoying symptom, cystitis, but without benefit, and seemed grateful for the very slight improvement which was noticeable when she returned home after I had made all possible efforts to afford relief during the one month of treatment. I gave her tonics, applied blisters and poultices, ordered a hot douche; applied cocaine to vagina and urethra, iodine to the cervix and vaginal vault, endeavored to raise and replace the uterus, which lay directly behind and underneath the symphysis, with tampons, and, when these seemed ineffective, with pessaries. Intra-uterine medication was difficult and but partially possible on account of the sensitive condition of the parts and the occlusion of the canal by the acuteness of the flexion; a fine, flexible probe entered with difficulty, and applications were so painful, when possible, that I

did not persist. Some relief was afforded by galvanism, mild currents, with the positive pole, being applied for their sedative effect, to the vagina and also to the urethra, some temporary improvement was referable to the tampon; but though the pessary effected a more thorough reposition, it caused irritation in the hypersensitive inflamed viscera and could not be retained.

Miss C., returned in December: the local condition was unaltered, but her appearance was decidedly better, the cervix, as before, was almost in the vulva, and the fundus bent right upon the neck, against the symphysis.

Treatment.—Dec. 9. Mild vagino-abdominal faradism, positive (mild) pole with cotton-covered ball electrode in the vagina, the negative pole, with the small abdominal plate over the fundus uteri; fine wire coil, current of high tension, frequent interruptions (3,000 per minute), for three minutes. This application, which was made for the purpose of quieting the nervous irritability, was followed by a negative electro-cauterization of the cavity. The finest probe only could be introduced when sharply bent, this was connected with the negative pole, and the medium abdominal plate with a surface of 28 square inches over the fundus with the positive; a current of 45 milliampères was passed for five minutes, ($13\frac{1}{2}$ coulombs), with an electro-motive force of $10\frac{1}{2}$ volts, tissues and electrodes representing a resistance of 250 ohms. Had the patient not been so excessively sensitive, as well as nervous, I should have used at least 60 to 80 milliampères. The metal pole was used in the cavity as a cautery to the diseased endometrium, and the electrolytic action of the current emanating from it was utilized to overcome the induration in the uterine walls and in the circumuterine tissue. An intra-uterine application of a 10 per cent carbolic acid solution was made, the vagina was dried, dusted with iodoform, and the uterus replaced by three tampons of iodized cotton, the lowest coated with ferrated cotton to hold the parts in place by contraction of the tissues around it, these were removed on the evening of the following day, before taking a douche of six gallons of water, at 118° , F. which was repeated next morning.

Dec. 13. I saw patient for the second time, and could now introduce a sound of ordinary thickness, but with a strong curve,

almost bent double; the same treatment was repeated. A slight flow coming on, I did not see patient again until Dec. 21. Same treatment. The uterine walls had lost their rigidity, the organ was not so low, and the bladder was less irritable.

Dec. 23. Faradism not used for sedative purposes, but after the (galvanic) cauterization, with a current of less tension and greater quality, heavier wire coil, for purposes of contraction and massage. Flexion quite overcome so that a sound of ordinary thickness with very slight curve at point entered readily, 60 m.-a. for four minutes, with medium plate on abdomen as positive pole,

Dec. 27. Same treatment, slightly curved platinum sound 45 m.-a., uterine walls soft, organ movable, readily replaced. Patient does not micturate so frequently, still feels a burning in the urethra, for which I applied the positive metallic pole to the urethra as a sedative, 4 m.-a. for two minutes.

Dec. 31. Improvement continuing, patient visibly better, sleeps well, looks brighter; negative electro-cauterization of uterus, 35 m.-a. application to urethra has given no noticeable relief, hence I resorted to the bipolar application, both poles in the urethra.

Jan. 3, 1887. Same treatment: believes to have found benefit from urethral application.

The menstrual flow came without the usual premonition, without pain; and, though profuse, passed off with little suffering, a relief which patient has not experienced for years.

Jan. 12. Treatment was resumed but I was obliged to resort to the curved sound again as the flexion had in part returned. The same applications were made, and

Jan. 14. I had so far overcome this that I could again use the slightly curved instrument. The uterus is readily replaced, but again sinks down when the support is removed.

After this eleventh treatment by (galvanic) electro-cauterization the canal is open, the endometritis greatly bettered, the metritis, as shown by the loss of rigidity, improved, the indurated circumuterine tissues are more pliable, the uterus can be raised and replaced, and all parts are less sensitive; by faradism with currents of high tension the hyperesthesia was re-

duced, and later by currents of less tension and greater quality, the circulation was stimulated, and the tissues invigorated; by the tampon of iodized cotton a mild continuous iodine action is attained and the parts held in position, so that the pressure on the bladder is diminished and the circulation is relieved.

I believe that the greatest difficulty is mastered, and treatment may now be directed to the vesical catarrh, since the rigid flexion is completely overcome and the pressure, which caused the irritation, will no longer continue.

In this case the electric current enabled me to overcome these long existing and unyielding conditions, in a comparatively short space of time, which I had in vain attempted by other means six months previous. The first and most difficult step accomplished, other methods might now, perhaps, be employed with equal effect, which in the first stage of the treatment must have failed. Pessaries are of little avail in antelexions, and dangerous in cases accompanied by chronic inflammation, the very conditions under which we can use electricity with such rapid and decided effect.

CASE II.—*Anteflexion due to Relaxation of the Uterine Walls and Atrophy of Tissue about the Internal Os.*

Miss K., æt. 20, anemic, consulted me Oct. 10, on account of painful and scant menstruation. The cervix was conical, large and hard, the fundus small, acutely flexed, could be entered only by a fine well-curved probe: this I attached to the negative, stimulating pole of the galvanic battery, placing the positive pole with the dispersing plate on the abdomen, over the fundus. Ten m.-a. were applied for six minutes, a quantity of $3\frac{1}{2}$ coulombs being used. At the close of the sitting I was enabled to introduce an ordinary sized, strongly curved sound. October 12, I repeated the same application for four minutes, and then being able to introduce the large sound, used this as my intra-uterine electrode for three minutes more.

Oct. 14. I could now introduce the large sound, still strongly curved, and applied 15 m.-a. for five minutes, following the application by vagino-abdominal faradism to stimulate the circulation in the pelvic tissues, the negative cotton-covered ball electrode being in the anterior fornix, against the fundus.

After this third application the menstrual period came on with but little pain, and much more free. Oct. 21, the treatment was resumed, the flexion being again more acute, but still admitting the large sound. Oct. 23, I could now introduce the large sound with but a slight curve, but did not continue the treatment with this, using the cotton-wrapped applicator instead; a negative electro-cauterization¹ 10 m.-a. to stimulate the muscular walls and mucosa, especially in the angle of flexion was followed by vagino-abdominal faradism. The patient was improving and did not come with the same regularity, sometimes every third day: still the second period, Nov. 13, came on her unawares, lasted five days and caused no pain whatsoever. The uterus was more firm, and in a position of normal anteversion with slight flexion.

CASE III.—*Anteversion and Latero-flexion by Perimetric Adhesions, with Metritis and Endometritis.*

Mrs. R., æt. 30, consulted me on account of pelvic weakness, pain in the left leg, nervous irritability and great physical weakness; her condition had been rendered unbearable by an exposure soon after a recent miscarriage, and she had been under treatment for some time without apparent benefit, her suffering being on the contrary aggravated by repeated attempts to correct the misplacement by various pessaries.

The irritability of the parts was first relieved by mild vagino-abdominal faradism with currents of high tension. The application caused a pleasant feeling of warmth in the abdomen during and immediately after the treatment and an improvement in the circulation. A noticeable stimulus throughout the entire body was felt during the remainder of the day.

When the irritability had been somewhat allayed, after the third treatment upon alternate days, I resorted to negative elec-

¹ More properly, negative *utero abdominal Galvanism*, since I shall limit the term electro-cauterization to the application of the current with the active metallic pole; this was the case in the previous applications by which it was desired to enlarge the canal. This being accomplished, I then used the cotton wrapped applicator in the cavity, to stimulate the uterine tissue, and to avoid further cauterization, as it would be caused by a metallic electrode.

tro-cauterization of the endometrium 40 m.-a. for five minutes, 60 m.-a. two days later, increasing the intensity to 100 m. a. With this I was obliged to use the large plate (with a surface of 55 square inches) as the dispersing electrode at the positive pole over the fundus, the resistance of the tissues being 212 ohms., that of the electrode 18 ohms, with warm water, the quantity of electricity varying from 18 coulombs (60 m.-a.) to 30 coulombs (100 m. a.) With the improvement in the condition of the uterus and its mucosa, the fixation was lessened by the action of the interpolar current on the circumuterine tissue, and I was enabled to replace the uterus somewhat by the tampons.

The first menstrual period, since the beginning of treatment, passed with less pain and a more profuse flow, and I now devoted my attention to the perimetric adhesions, using bipolar intra-uterine galvanism for three minutes, and negative vagino-abdominal galvanism for five minutes. The negative pole with the cotton covered ball electrode was placed for two minutes against the posterior adhesions in the cul-de-sac, behind the cervix, and for three minutes against those to the left of the fundus. The medium plate, 28 sq. ins. of surface, in connection with the positive dispersing pole, was firmly pressed on the abdomen over the fundus; a current of 30 m.-a. was first used, later, 40 and 60 m.-a. (With higher intensities a heavy layer of absorbent cotton must surround the vaginal ball electrode so that it may not cauterize.) During one intermenstrual period this treatment was pursued, and finally vagino-abdominal faradism or faradic massage was applied to strengthen the vagina and stimulate the functional activity of the parts; currents of moderate quality and tension were used. In this case, as in so many others, I observed a very welcome action of the faradic current on the atonic condition of the bowel. The patient who had been suffering from constipation, for which I had given the Friederichshall water, found that smaller quantities sufficed, and that she was enabled to do without it altogether after the second week of the faradic treatment. In the vagino-abdominal application sufficient of the extra-polar current radiates throughout the surrounding tissues to affect the muscular fibres and the nerves of the intestinal tract to stimulate and contract the flabby tissues. We have no better means

to overcome constipation, when due to relaxation or distention of the bowels, than the properly applied faradic current of quality and low tension, and in gynecological treatment this is more or less influenced, so that I not unfrequently observe the relief of constipation of long standing, which has resisted medication, in the course of treatment; but if this be not continued for a sufficient length of time the constipation returns after the cessation of the faradic application.

CASE IV.—*Retroversion and Flexion and Descensus Uteri, with deep Laceration of Perineum, Laceration of Cervix, Subinvolution and Hyperplasia with Endometritis.*

Mrs. H., æt. 40, came to me complaining of inability to perform her usual duties, bearing down and dragging sensations, together with numerous neuroses. For several years she had been under the care of a prominent gynecologist who had treated her, operated on the perineum and endeavored to replace the uterus by means of pessaries. Though she had been improved, her condition was still a very unsatisfactory one.

I found the enormously enlarged cervix in the vulva, screened from view only by the thin band of tissue which had been formed by the perineal operation, the fundus in the hollow of the sacrum, the vagina relaxed and congested.

The following line of treatment was pursued to reduce the size and weight of the uterus:

Scarification to reduce the congestion.

Negative electro-cauterization of the cavity to overcome the endometritis and inaugurate absorption in the hyperplastic uterus.

Negative electro-puncture into the hyperplastic uterus, after the endometritis had been relieved, for its direct electrolytic action.

Astringent supporting tampons were placed after each treatment, and allowed to remain in place until the evening of the following day, when a hot alum injection was taken, which was repeated upon the following morning before returning for treatment.

Contraction, then stimulation and reposition.

Contraction of the uterus by bipolar intrauterine galvanism and faradism.

Contraction of the pendulous abdominal walls, the uterine and vaginal tissues, was furthered by vagino-abdominal and intra-vaginal faradization, with currents of quality and low tension, 2-300 interruptions, and notwithstanding the deep vagino-perineal laceration, patient now quite comfortable, the uterus reduced in size, high in the pelvis in a position of normal ante-version and flexion, but as some extra exertion is demanded by the festivities of the season, and she cannot come regularly for treatment so that the astringent tampon can be inserted, I have placed a soft Albert Smith pessary, with which she is perfectly comfortable, and which she will wear until ready to submit to a colpoperineorrhaphy, which will restore her to perfect health. Even now, *without the pessary, notwithstanding the deep laceration, the womb retains its position unless subjected to unusual strain.*

This result was accomplished by the electric current aided by astringent tampons, in a case which had resisted intrauterine medication, the pessary and even the operation at the hands of a prominent gynecologist.

The treatment was inaugurated by negative electro-cauterization of the endometrium; the platinum sound, of ordinary thickness, insulated up to its point of contact with the cervical canal, connected with the negative pole, the medium abdominal plate, (28 sq. in's. of surface) as the positive pole over the fundus, with an electro-motive force of 8 volts, 40 milliampères were used for five minutes, representing a quantity of 12 coulombs, used in the treatment, the resistance of tissues and electrode being 285 ohms in the beginning of the sitting, reduced in the course of a few minutes to 200 ohms by thorough saturation of the epidermis and penetration of the current. The resistance of my No. 2 electrode being about 14 ohms, when merely moistened with warm water (I never use salt on account of the ill results of electrolysis by stronger currents, the chlorine developed injuring the electrode and causing greater burning) the resistance of the tissues in this case, large abdomen, from the fundus to the abdomen, was 186

ohms, and that of the dry epidermis 85 ohms, which was overcome by saturation with the fluid from the electrode.¹

At the next sitting, 60 m.-a. were used, increasing, without the addition of more cells, to 80 m.-a. as the resistance was decreased from 285 to 200 ohms by the soaking of the epidermis; 80 m.-a. was applied for five minutes, under an electro-motive force of 16 volts, the entire quantity of electricity used upon the patient in the sitting being 24 coulombs. As the endometritis improved, though some effect of the interpoler current was visible in the lessening of the induration of the walls, I attacked this direct by electro-puncture, using the platinum needle to the depth of $1\frac{1}{2}$ inches in the tissue as the negative pole, with the medium electrode on the abdominal wall, at first 60, later, 100 milliamperes, and then 120 m.-a. for six minutes, 43 coulombs, but with the large abdominal plate. These applications were followed by vagino-abdominal faradism; the cotton-covered ball electrode as the more irritating negative pole in the vagina, the same electrode which I had before used on the abdomen, with a current of quality and low tension, for three minutes; not only did this seem to contract and strengthen the vaginal and uterine tissue, but the circulation was stimulated, the activity increased, and absorption, which was inaugurated by the electrolytic action of galvanism, was furthered by this faradic massage of the tissues, a massage most effectively obtained by this method, with benefit and without pain to the patient, far more effective than that suggested by Reeves Jackson, by digital manipulation.

Finally, as the uterus was reduced in size, as the inflammatory condition had been overcome, and the tissues had been strengthened, I resorted to bipolar intra-uterine, and bipolar intra-vaginal faradism with the same current of great quality, each application in the same sitting for three or four minutes. This is the most powerful contractor and stimulant, since stronger currents can be applied if we limit their effect to the uterine or

¹My abdominal electrode, No. 1, or large, No. 2, or medium, No. 3, or small, are respectively $6\frac{1}{2}" \times 9\frac{1}{2}"$, $4\frac{1}{2}" \times 6\frac{1}{2}"$ and $3\frac{1}{2}" \times 4\frac{1}{2}"$, very pliable sheet lead covered with punk or absorbent cotton, which is held in place by chamois skin).

vaginal tissues exclusively, which are much less sensitive than the cutis of the abdomen.

After each application the parts were cleansed and dried, dusted with an iodoform and alum mixture, and the uterus replaced and fixed by the astringent elastic tampon (wool with alum).

Now, as I do not see the patient regularly, I have substituted a pessary for the tampon, and remove this for treatment once or twice a week, or every two weeks, as it happens, applying bipolar intra-uterine galvanism and bipolar intravaginal faradization; notwithstanding constant exertion, the uterus is high in the pelvis, in normal position, and I merely seek to retain the present favorable condition until operative interference will be possible. The pessary was inserted as a safeguard merely, as the patient was perfectly comfortable, and the parts remained well in position; but under the present unusual strain I feared a relapse if more effective measures were not taken.

CASE V.—*Prolapsus Uteri.*

Mrs. H., æt. 64. Notwithstanding the age of the patient, the uterus was still large, the cavity wide, emitting a profuse discharge: the perineum was lacerated, and the vaginal walls distended and relaxed. Patient had been unable to walk any distance for the past 30 years; living in a country town, she had moved about considerably with the aid of a low phaeton, but did not dare trust her feet; when she first came to the city, it was with great effort that she reached my office: in fact it was some days before she could summon courage to make the attempt, being obliged to walk one-half of a square from her home to the street cars, and from the cars to my office. During three months Mrs. H. gave herself up completely to treatment, resting the greater part of the time during the first two months in the semi-prone position. Negative electro-cauterization was first resorted to to overcome the rather profuse discharge and to diminish the size of the uterus, from 50 to 80 m.-a. being used for four minutes, followed by bipolar intra-vaginal faradization for four minutes, with a current of greater quality, 500 interruptions per minute, which served to contract and strengthen the vaginal tissue. For the same purpose, and the support of the

uterus as well, I inserted tampons of tannated cotton coated with a thin layer of ferrated cotton. These were left in place for two days and removed by me before renewed treatment. After the second week the discharge being diminished, negative electropuncture of the uterus with platinum needles was resorted to, 80 to 100 m.-a. for four minutes, sittings on alternate days until eight or ten punctures had been made. The uterus was hereby reduced in size.

The treatment for the following months was bipolar intrauterine galvanism, 10 to 20 m.-a. for four minutes, followed by vagino-abdominal faradization for three minutes, and bipolar intra-vaginal faradization for three minutes; the vagina was then dusted with an astringent antiseptic powder, and the same astringent tampons used; these were, however, now removed upon the second day, just before returning for treatment, and a hot alum injection taken. During the third month the patient began to take some exercise, walking a square at a time until gradually she walked the six squares to my office. Her general condition improved very much, her appetite was much better; the swelling of the left leg, due to edema and venous congestion from pressure of the enlarged, prolapsed uterus upon the pelvic veins, steadily diminished; the pains in the leg, which had been supposed to be rheumatic, became less and less; leg and foot thinner, and for the first time in many years the patient was enabled to wear a shoe in place of a slipper, upon the left foot, such as the one she wore upon the right. Her walks were extended, the treatment became gradually less frequent, every third day, twice a week, weekly, until after four months of steady treatment this lady, who had not walked but a few steps at a time for the past thirty years, was enabled to walk with comfort as far as could be expected for one of her age and general condition. Her spirits, and the tone of her system were all much improved; she had increased in weight, the swelling of the leg which had existed for years had disappeared; though for several months she continued to use tampons, which she herself inserted. I believe that now she has done away even with these.

This lady, the mother of a physician, had been under treat-

ment so long, had patiently tried so much with so little benefit, that for years she had given up all hope. Unwillingly she began treatment, yet the result which surpassed my most sanguine expectations, was a striking one.

CONCLUSION.

It is needless to continue the recital of cases, since these here related will suffice to demonstrate the applicability of the method for the improvement and cure of these conditions which have so long troubled, if not resisted, the efforts of the gynecologist, as is clearly shown by the varied forms of the innumerable pessaries vainly devised for their relief.

The various forms of galvanism and faradism afforded by the polar method are so admirably adapted for this treatment that a cure is now possible, and that within a brief space of time. Whilst the pessary, the main reliance hitherto, endangers the patient, is liable to give pain and excite inflammation, the secondary effects of properly applied electricity are most beneficial; the circulation is improved, absorption is furthered, pain is relieved, many of the neuroses are dispelled, dysmenorrhea is checked, and constipation may be overcome, but under no other circumstances do we see the superiority and the wonderful efficiency of this agent so apparent as in flexions with narrowing of the canal accompanied by metritis and endometritis, which yield but slowly to any other method; whilst immediate relief follows galvanic treatment. This relief may be so rapid and so complete as to surpass our most sanguine expectation. As in a patient who had suffered for five years from constant pain and intense dysmenorrhea, due to an ante flexion with stenosis of the internal os, which had heretofore resisted treatment until the poor woman had given up in despair, after two applications, the menses appeared, to the amazement of the patient, without any appreciable pain.

By the same application which serves to overcome the causative pathological condition, the accompanying neuroses are dispelled, and a most excellent tonic effect is exerted on the pelvic viscera. But the polar method, as I advocate it, must not be confounded with the vague use of electricity generally prevalent, and success can only be attained by methodic scientific application.

Contraindications are found only in the rarely existing idiosyncrasies.

I sincerely trust that electricity will be accorded a thorough trial in the treatment of uterine displacements, and will receive that consideration which it merits; it is a welcome addition to our limited means, more especially so since it is intended to supplement, and not to supersede or replace, the methods already in use.

SUMMARY.

ABBREVIATIONS.

- = negative.
- + = positive.
- E. C. = electro-cauterization.
- E. P. = electro-puncture.
- V. A. = vagino-abdominal.
- U. A. = utero-abdominal.
- Ic. = coil of short, heavy wire, low tension, quality.
- IIC. = coil of medium wire, medium tension.
- IIIC. = coil of long, fine wire. high tension, little quality.
- 1P. = large plate, 6x9.
- 2P. = medium plate, 4x6.
- 3P. = small plate, 3x4.
- I⁸ = 8 few interruptions, up to 500.
- I² = 500 to 1500 interruptions.
- I¹ = 1,500 to 2,500 interruptions.

CONDITIONS.

ANTEFLEXION.

PRIMARY. Frequently due to a *defect of development*

or an abnormally *large cervix*

ELECTRICAL APPLICATIONS.

Utero-abdominal and vagino-abdominal faradization, 6 to 8 minutes, moderate quality and tension, moderate intensity, frequent interruptions, (—U. A. and V. A. farad. 6 to 8 min. IIC., I¹) moist, non-metallic, penetrating electrode, negative intrapelvic; or galvanism, negative, non-metallic electrode in or against uterus, small abdominal plate, externally, (—U. A. and —V. A. + 3P.), 8 to 15 m.-a. 4 to 6 minutes.

Negative electro-puncture (—E. P.) 60 to 100 m.-a., 5 min.

aggravated by *passive hyperemia* of the fundus resulting from compression of vessels.

Tissue in the angle of flexion is *badly nourished* by reason of the compression of vessels. Atrophy of the flexed part results; consequently the muscle is weakened.

The *walls are flabby*, erection fails to occur during the menstrual congestion, the blood cannot enter the vessels, the flow cannot escape through the canal, the blood stagnates, the uterus becomes hyperemic. The sequence is frequently *chronic metritis* and hyperemia in circumuterine tissue which may lead to disease of the parts about the uterus.

SECONDARY flexions may be caused by circumuterine diseases. Inflammation in the fossa of Douglas—posterior to lower part of the uterus from perimetritis or extending uterine inflammation (gonorrheal)—produces *adhesion of the lower posterior part of uterus to opposite peritoneum*; this and inflammation and contraction in the folds of Douglass may lead to fixation of uterus in angle of flexion; as the cervix and the angle is drawn upward, the fundus sinks down. (Posterior ligaments indurated).

Atrophy of the angle and above mentioned conditions follow, by whatever cause the ante flexion be produced, by a fibroid or by a fall.

ANTEVERSION is usually the result of *chronic metritis* by which the normal angle of flexion is obliterated—more common since metritis frequently ac-

Bipolar intra-uterine or utero-abdominal faradization (II.c. I³) moderate quality and tension, frequent interruptions; if not inflammatory, quality and low tension, interruptions of moderate rapidity. Ic., I¹

Negative galvanization (— U. A.) of cavity, 8 to 15 or at most 20 m.-a., cotton-wrapped applicator in utero, small plate on abdomen (3P.)

Utero-abdominal faradization (—U. A. far. II.c., I³) especially before menses.

Negative electro-cauterization of cavity 50 to 150 m.-a., 3 to 5 min.

Negative vagino-abdominal galvanism 40 to 80 m.-a. 2. or 1. P. negat., cotton-wrapped ball electrode per vaginam against point of fixation, and positive pole on abdomen, according to intensity of current used, medium or large plate.

Negative electro-cauterization of uterine cavity, if with endometritis; by negative electro-puncture of uterus, if hyperplasia is great, 50 to 150 m.-a., 2.P., 4 to 5 min.

companies *perimetritis*.

Perimetritis may cause anteversion by *fixation* of lower end of uterus posteriorly, or upper end anteriorly.

Anterior fixation by perimetritic *adhesions* of one tube and ovary to anterior pelvic wall causes anteversion with lateroversion.

RETROFLEXION.—Mostly follows *retroversion in the puerperium*, or post abortum. The ligaments gradually yield; as involution progresses the uterus becomes more *flexible*, the large upper half bends back more and more and sinks into the hollow of the sacrum, and

Adhesions, remnants of the puerperium, bind and hold down the fundus.

Chronic metritis,

disturbed circulation — *hyperemia*— cause or follow retroflexion, and are frequently found with it.

Adhesions holding one peritoneal wall, or fold, to the opposite are common, and may result from cellulitis, hematocoele, especially gonorrheal perimetritis.

Retroflexion itself may cause adhesions; feces, increased intra-abdominal pressure, or the weight of the fundus, may press this enlarged body against the pelvic floor and thus create adhesive inflammation.

Negative vagino-abdominal galvanism, cotton ball electrode in vagina: positive, medium plate (2. P.) on abdomen, 40 to 80 m.-a., 3 to 5 min.

Same as above, ball electrode against point of fixation; if no pain or acute inflammation, to be followed later by massage, vagino-abdominal farad heavy wire coil, quality and low tension, moderate intensity, moderately rapid interruptions 2 to 4 minutes, cotton-covered ball electrode per vaginam, small plate over fundus.

Same as above. Absorbent effect of galvanism, — V. A., 40 to 80 m.-a., 3 to 5 min., negative ball electrode against point of fixation.

Vagino-abdominal faradization as in subinvolution, short coil of heavy wire, high quality, low tension.

Bipolar intra-uterine and utero-abdom. farad. with currents of quality interrupt of moderate frequency, 4 to 6 min.

For absorption—vag. abd. galv., 40 to 80 m.-a., and later, when all acute and inflammatory symptoms have disappeared, massage.

Negative electro-cauterization if endometritis prominent, electro-puncture if metritis predominates.

Positive vag. abd. galv., 10 to 20 m.-a. 2.P. and massage by vag. abd. farad.

Vag. abd. galv., 10 to 20 m.-a. if stimulation is desired, 40 to 80 m.-a., if absorption is desired.

Vag. abd. or abd. farad. to overcome constipation and pressure of intestines.

RETROVERSION is frequently transitional developing into normal anteversion, retroflexion or descensus.

We have this condition, post partum or post abortum, when the *organ is still too thick* to permit flexion at the internal os,

since the *supports*, especially the vagina, are *still weak* and these conditions;

a. hypertrophy of the uterus with

b. relaxation of the vagina must lead to retroversion.

DESCENSUS OF THE UTERUS is usually followed by descensus of the vagina, and is

caused by *imperfect involution* of peritoneal attachments which remain hyperemic, relaxed—the uterus is large, its supports are weakened and insufficient, hence it cannot be held up, and sags down, and then

if the uterus is normal, increased anteversion follows—

If the uterus is retroverted it slips downward.

Most frequent causes of diseases are perineal rupture, relaxed vagina, cystocele, retroversion, and *relaxed peritoneal attachments* which may all exist together.

Increased pressure from above, traction from below, absence of physiological supports as by excessive dilatation of vagina by too large pessaries.

Utero-abdominal faradization, sound in uterus, small plate on fundus (U. A. farad. I.c., 3. P., I³ or I²) low tension, quality, few or medium interruptions. or bipolar, intra-uterine faradization.

Vagino-abdominal faradization, ball electrode in vag., small plate on abdomen, to strengthen ligaments. Bipolar intra-vaginal or vagino-abdominal faradization for vagina.

Negative electro-cauterization of the uterus, and in severe cases negative electro-puncture, 50 to 150 m.-a., 5 min., II or I.P.

Vagino-abdominal faradization, positive pole, medium or small plate on abdomen; or bipolar, intravaginal farad. currents of quality, low tension few interruptions.

Vagino-abdominal faradization, I.c., I³ or I². 3 to 4 min.

Treatment of uterus as in subinvolution or hypertrophy.

Vagino-abdominal faradization, currents of quality.

Vagino-abdominal faradization and treatment of uterine condition.

Intra-vaginal and vag. abdom. farad. I.c. I³ or I².

In lying-in women and in convalescents, in whom fat in circumuterine cellular tissue, is absorbed these conditions exist.

A CONTRIBUTION TO THE TREATMENT OF
PUERPERAL SEPTICEMIA.

By EUG. C. GEHRUNG, M. D.

[Read before the St. Louis *Medico-Chirurgical Society*, Jan. 28, 1887].

ON December 23, 1886, I was called in consultation with Dr. ——— to see Mrs. S., who was delivered by forceps on Dec. 17, after a lingering labor of several days. The attending physician informed me that several days ago the patient's temperature and pulse began to rise and that at the same time a constantly increasing pain in the abdomen was developed, despite frequently repeated large doses of quinine and hypodermic injections of morphine, the application of hot poultices and frequent antiseptic vaginal douches.

The patient's face was flushed, the lips dry and covered with sordes, the tongue had the appearance of raw beef, the mind was wandering, the temperature 104° F., and the pulse 140 per minute and wiry. There was great thirst, nausea, anorexia, vomiting, etc.

Abdominal palpation revealed extreme tenderness and hardening of the hypogastric and both iliac regions to the level of the anterior superior spine of the ilium resembling the line of demarcation of an upward spreading peritonitis. The most sensitive part, however, was the left iliac region, in which was found an oblong tumor reaching from behind the pubic symphysis to the left anterior-superior spine of the ilium. This was recognized to be the enlarged uterus. Vaginal touch revealed moderate lacerations of the perineum and cervix. The vagina was hot, and contained some fetid fluid. From under the bed clothes emanated an odor of putridity. The cervix was found dilated, and easily permitted the introduction of the index finger to its full length, but the tip of it would reach only into the lower segment of the uterine cavity.

The parts being so exquisitely tender, and in the face of the existing inflammation, I dared not carry the examination further, and so remained in ignorance of the true condition of

the upper segment of this cavity. My diagnosis was puerperal septicemia by auto-inoculation. The probable cause of this condition appeared to be the incomplete contraction of the uterus after labor, by the retention of fragments of placenta or of membranes, or clots.

Vaginal antiseptic injections having been frequently administered, the probability that the lacerated perineal and cervical surfaces were the foci of infection could safely be excluded. Curetting the uterine cavity without even a positive knowledge where to find the offending body and in the presence of an existing inflammation would have been a doubtful procedure, yet to be held in reserve, if less severe means should fail. Consequently nothing remained to be done in the direction of improving the previous treatment, except the washing of the cavity of the uterus by antiseptic or germicide lotions. The only thing now to be decided, was the apparatus by which this should be done.

Had the case been one of miscarriage during the early months of pregnancy, there would have been no cause for hesitation in my mind. I should of course have decided in favor of the instrument lately described by me¹ and so advantageously used by me in a number of cases of putrid ova, as reported. Heretofore the instrument had not been tried in post-partum cases at term, and there was yet some doubt whether it would give full satisfaction or not, on account of the widely open cervix. This instrument being, however, the most handy at the time and the proposition to use it cheerfully accepted by the physician in charge, I decided in its favor, and about four ounces of a 1-4000 bichloride of mercury solution was at once aspirated through the uterus. The operation being over I asked the patient whether she felt much worse for the treatment.

"No, on the contrary I feel ever so much better and quite refreshed."

The change in her appearance proved the truthfulness of her words. The temperature, immediately after the injection, was reduced nearly two degrees and the pulse lessened about twenty beats.

¹*American Journal of Obstetrics, Etc.*, for June and December 1886.

I hardly need to mention that the necessary attention was at once given to cleanliness and disinfection of the patient and her surroundings, according to the most approved rules of hygiene. Antipyretics, poultices and douches were continued as before, iodoform suppositories were added, and the urine drawn by the catheter.

On the morning of Dec. 24, the temperature and pulse were again nearly as high as before the washing on the preceding day. The treatment being repeated was followed by the same results as then. After a second attention on the same day the temperature was reduced to 101°F. Pulse 110 and, without narcotics, the patient passed the "first comfortable night," according to her own statement, since her labor began. On Dec. 25, the improvement was so great that the uterus was washed out but once, while the vaginal injections, suppositories, etc., were continued as on Dec. 24. This neglect of the evening washing, was, however, to be greatly regretted, as on the morning of the 26th I was called early, the patient being much worse. Temperature 105°F., pulse 140, mind wandering and complete anorexia, etc. During the day the uterus was washed out three times, each being followed by amelioration of the symptoms until after the third the temperature showed 101.5°F., and the pulse numbered 110. Three washings on the following day (Dec. 27), brought the temperature and pulse down to normal. Pain and tenderness had almost completely disappeared, and the other symptoms vanished in proportion. The abdomen was soft to the touch, and the uterus contracted solidly upon itself. I should not forget to state that after the first aspirations the uterus diminished in size *pari passu* with the improvement obtained, until the 26th, the fourth day of my attendance, when it was found somewhat enlarged again. Two washings were practised on the 28th, and one on the 29th, for precaution's sake. All the patient complained of now was, that she could not get up as she felt so well. She ate and slept well, rested without pain or discomfort, and nursed her child. Throughout the case the vaginal douches were administered before the introduction of the cannula into the uterus for the purpose of preventing septic substance, possibly lodged there,

from being carried into the uterus; a precaution to be highly recommended in all cases of this nature. I should not omit to mention that the treatment would have been absolutely painless had it not been for the unavoidable touch by the finger of the perineal laceration for the introduction of the cannula. No change of position is necessary for the treatment.

During the progress of the case the mercuric solution was tried, in different strengths, up to 1-2000, and carbolized solution to 2-100.

There was nothing peculiar in this case, as it ran its course and terminated like most cases of this kind, except in the mode of washing the uterine cavity, and its consequences.

Now the questions arise.

1. What is gained by this difference in treatment?
2. Was the progress faster, or more certain, than by the use of injections by ordinary douches or syringes?
3. Was it safer than by the usual means?
4. Why is it that such extremely small quantities of fluid, two to four ounces, proved sufficient?

To the first query I believe that I am authorized by the result of the case to state that at least as much was gained as by any other method of treatment, and, had it been pushed to at least two or three washings every day, (a number that I should highly recommend in other cases as the minimum), the desired result would have been obtained in a much shorter time and probably much more promptly than by other methods, for reasons to be stated below.

To the second question my answer is, that it was more certain, and also more rapid in its effects, because of the peculiar principle involved in the action of the instrument used.

The *suction*, which is produced by this instrument, necessary to raise the column of fluid to the required level, will open the sinuses and other recesses and make them give up their septic contents, which are then rapidly carried away by the stream of fluid that follows; while by means of direct injections only those substances are carried away, that are already loose in the uterine cavity.

3. Was it safer than by the usual means? I answer with-

out hesitation; Yes, decidedly! The injections by the usual methods have, even in the hands of the most dexterous and careful manipulators, frequently been followed by disastrous results. There is no particular reason why this should not be so, if it be considered that the direct stream of fluid may not only force the septic matter already in the mouths of the sinuses, into the circulation, but, in addition, drive some more of that contained in the cavity of the uterus, as well as some of the injected fluid and even air into these.

4. How is it possible that such a small quantity of fluid as has been used, should have made such a decided impression, while no one would think of using such a homeopathic dose with the *vis-a-tergo* method? The word *suction* with the explanation given before is a sufficient answer.

Had this small quantity not had the desired result, I would have used a larger, as there is no limit to the quantity that can be used, but reasoning from the flow of clear fluid, so easily observable in this instrument, and from my former experience with similar cases, I knew that this quantity would probably be sufficient, and so the result in this case showed it to be. I am, however, not sure but that I might have obtained still better results, if I had used greater quantities. The flow being once established, it would not be necessary to work the instrument constantly, but by a certain manœuvre (as described in my former paper in the *Am. Jour. Obst.*) the constant irrigation may be established, and the washing can thus be allowed to go slow or fast at the will of the operator and for as many minutes, hours or days as the case would demand, without further exertion.

I was greatly annoyed to find that on the first introduction for several washings the cannula became obstructed by a plug of viscid mucus, so that I was obliged to withdraw it to remove the mucus, and only on introducing it the second time did I secure a good and uninterrupted flow of fluid.

Can this be regarded as a defect of the instrument? I do not think so, because it is probable that that plug of viscid mucus is one of the principal causes of danger with the usual instruments by its preventing the return current, either in the double

cannula used or in the cervix through which the return flow is expected to take place, when a single cannula is used. Thus, one is here not only warned of the danger that might occur from such an obstruction, but in fact the danger is at once obviated, by the flow of fluids being prevented, not from leaving the womb but from entering it!

This defect, if such it be, can however be easily overcome, by using a cannula of larger calibre with correspondingly larger perforations at the tip.

If this method of washing out the uterus should prove in the hands of others, as it has done in mine, to lessen the danger of the treatment and consequently of this dread disease itself to ever so small an extent, it would be to me a source of great gratification.

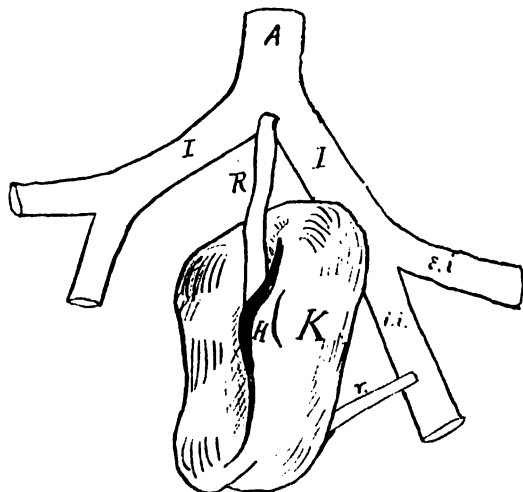
2215 Olive Street.

A PECULIAR MISPLACEMENT OF A KIDNEY.

BY FRANK R. FRY, A. M., M. D., *Demonstrator of Anatomy, St. Louis Medical College.*

The left, or misplaced kidney, was about two-thirds the size of the right one. It had a slightly lobulated condition. It occupied a position in front of and to the left of the promontory of the sacrum, where it was firmly held by the periosteum and subperiosteal tissue. The hilum looked forward, and the organ was so flattened that the usual relation of the antero-posterior and transverse diameters was reversed. A renal vein of large size followed the direction of the artery and emptied into the inferior cava at its bifurcation. The arteries were large, short and straight, holding the organ to its place. The relation will be understood by the accompanying drawing. There was a

well-developed supra-renal capsule, easily found up in the abdomen at the usual site.



A. Aorta.

I. Common iliac arteries.

i.i. Left internal iliac artery.

e. i. Left external iliac artery.

R. Renal artery arising at the bifurcation of the aorta and entering kidney at the hilum.

r. An extra or supernumerary artery from the left internal iliac, nearly the size of R., which entered the postero-external border of the kidney.

H. Hilum.

K. Antero-external surface of left kidney.

CONTAGION BY THE TELEPHONE.—A warning comes from Dr. A. P. Astvatzatüroff, of Tiflis, concerning the danger of the communication of contagious diseases by the promiscuous use of the mouth-pieces of public telephones. He recommends that a vessel of disinfectant fluid should be kept at each telephone station, and that each time the instrument is used, the mouth-piece should be dipped into it and wiped with a clean towel.—*Medical News*, Feb. 12, 1887.

CASES FROM PRACTICE.

FRACTURES OF THE SKULL.

BY E. W. BLISS, M.D., HIAWATHA, KAS.

[*Read before the Northern Kansas Medical Society, Nov. 11, 1886.*]

This paper is made up of the histories of four cases of fracture of the skull, upon which I have operated in the last few years. I have no full daily clinical notes of the cases, but trust that lack will not affect seriously interest in the cases, though it may mar the completeness of the record.

CASE I.—H. H., æt. 4, kicked by a horse in left temporal region, in September 1879. I first saw the case two hours after injury. He was suffering severely from shock, was unconscious, with pupils dilated, pulse rapid and feeble. The soft parts were cut by the horse's hoof, in a semi-circular direction, from above the eye up over temporal region for about four inches. An examination revealed an extensive fracture of skull with depression of a triangular shaped fragment over an inch long. By the aid of a Hey's saw a lodgement was made for forceps, and the fragment removed, which was no easy task, as it was wedged firmly under the solid bone. The hemorrhage was checked, hair removed about the wound, sutures applied in upper three-fourths, lower end open for drainage. Carbolyzed cold water was applied as dressing. A very high degree of fever, attended with delirium, came on the next day. It was treated with salines directed to the skin and kidneys, and with bromide of potassium. This case made a rapid recovery. I saw the boy a few days since in Hiawatha. There is a very suggestive semi-circular scar at seat of injury, but the deficiency in skull is firmly closed, and the boy is in perfect health.

CASE II.—I was called by Dr. F. O. Hoyt, of Hamlin, Brown county, August 1881, to see M——, section hand, æt. 21. While running he plunged through a railroad culvert, striking his head

against a rough stone abutment. When I saw him fix or six hours after accident, he was insensible, with contracted pupils, slow pulse and flushed face, having apparently rallied from shock, but with an occasional sighing respiration. Upon examination I found by probing through a small punctured wound in scalp in right upper frontal region a small irregularity, which Dr. Hoyt and I concluded was a fracture. A V-shaped incision was made including the wound in the scalp, and upon exposure there was found in the skull a round dent about the size of a nickel, with cracks running backward and forward, the inner edge of one fissure being slightly depressed. A button of bone was removed at edge of fracture by the trephine and quite a large fragment or spiculum from the inner table was removed. This piece was one-half inch wide by three-fourths inch long, and quite loose. The depression was reduced as far as practicable, and the wound loosely closed with carbolized water dressing. This man made a perfect recovery under the care of Dr. Hoyt.

CASE III.—T. K., boy, æt. 10; kicked in right temporal region by a horse. When I saw him first August 9, 1884, about four or five hours after receipt of injury, he was unconscious; pupils dilated, convergent strabismus strongly marked in left eye, breathing heavy and irregular, pulse slow and weak. The force of the blow was received just above and in front of ear. There were two cuts in scalp. A small quantity of whiskey was administered and as patient was partially sensible to pain, an anesthetic was cautiously given by Dr. W. D. Lewis, who, with Dr. Burns, of Willis, assisted me. The two wounds in the scalp were united by an incision which was continued upward and forward for several inches, freely exposing the comminuted bone. Hemorrhage was controlled by torsion of vessels and pressure. A large fragment triangular in shape, whose base extended downward and out of sight was very much depressed, as was a large piece above and in front. It being impossible to obtain a leverage a button was removed from sound bone, but finding a large vessel, probably the middle meningeal artery, immediately at the bottom of the space thus made, I did not dare to use my elevator. With chisel and mallet the opening was extended until clear of the artery, when the fragments were lifted into their proper position. Sutures were used to close wound, and antiseptic water dressing applied. After operation the patient rallied and recovered consciousness to some extent, when hot beef tea and milk

were given. The following day boy was conscious, but with usual high fever, which was treated with aconite, acetate of potassium and bromide of potassium. The case progressed favorably for several days, when my regular attendance was discontinued at request of the parents. I received a telegram, August 25, that the boy was dying and to go to him at once. When I arrived at the house the boy was conscious, very pallid, with heart's action rapid, very feeble and intermittent. Left hemiplegia was present. Death was imminent. The wound had partly closed and looked healthy. I feared abscess or secondary clot causing compression, but owing to very critical condition of patient did not make any violent exploration. Bromide of potassium and ammonia carb. were ordered with plenty of beef tea and milk. Perfect rest and quiet were enjoined. The next day I think, a large quantity of pus was discharged through wound. His condition then began to improve but the large triangular fragment was not firmly healed in wound. By careful antiseptic treatment it was thought possible to produce union and a cure, but the wound never entirely closed until some time later when the fragment became loosened and was removed. The boy made a perfect recovery, the paralysis gradually disappearing.

CASE IV.—I was called on the night of March 24, 1885, to see Walter S——, boy, æt. 6. Several hours before a binding pole had been thrown from a load of hay striking him on the top of the head producing an extensive compound, comminuted fracture of the frontal and both parietal bones. The boy was in a semi-comatose state; pupils dilated, pulse slow and weak. Through a small, ragged wound in scalp over the left and upper portion of frontal bone blood and brain substance were oozing. With the concurrence of the parents, I proceeded to operate, an anesthetic having been administered by Dr. W. D. Lewis who assisted me. The external wound was extended backward and forward by incision, a fragment of bone removed with forceps, thus making an opening for the introduction of the elevator. The depressed bone was then raised, an operation of some difficulty, the depression being extensive. A broad fissure extended down through frontal bone and supra orbital ridge. The enveloping membranes of brain were fractured and during operation one or two teaspoonfuls of brain tissue were lost. All detritus was carefully washed away with antiseptic water; drainage of horsehair placed at bottom of wound; several sutures used in scalp, compress of cotton and band

age applied over all. He rallied to some extent but not entirely that night. The following day he had recovered from his stupor, his pulse was stronger and more frequent. He took nourishment and stimulants, yet was still suffering from shock. The dressings were left *in situ*: Bromide of potassium and chloral with minute portions of morphia were administered to tranquilize patient. The next day dressings were opened, a little brain tissue removed and fresh dressings substituted. On this day was first noticed a considerable degree of fever which lasted for several weeks. It was combated with aconite in small doses in spts. Mindereri, given frequently, and by tepid sponging. The case thus progressed for about one week, when I noticed that a firm tumor was forming over seat of operation and extending down on forehead over the fissure in frontal bone. This developed into a mass larger than an egg. I had no difficulty in distinguishing it as a true cerebral hernia, the brain tissue being plainly visible. Union having taken place through part of the incision, I now removed the horse hairs, and as there was a free flow of pus, I made my antiseptic solution of bichloride of mercury of the strength of one part to five hundred. With this I had the wound frequently bathed, still keeping up compress and bandage, using what pressure I dared. In about twelve days the hernia had entirely disappeared, and from this time on the case progressed finely. About five weeks after I first saw case I removed a piece of bone about three-fourths inch wide by one inch long, which had been kept from uniting by the development of the hernia. After this the wound closed within a week. I saw the boy casually Oct. 30. He is apparently in perfect health. There is, however, in upper and left frontal region an open space, about an inch in width devoid of bone, through which pulsations of brain are plainly visible. The fissure is still open to within one-half inch of supra-orbital ridge where it is closed. Whether this space will become filled I know not, but think it may in time.

My first and second cases may be termed simple, as there were no important complications, and progress toward recovery was rapid and uninterrupted.

The third and fourth cases are of exceptional interest owing to the severity of the injuries and the complications arising, and the fact that both cases were carried to a successful termination, though the complications were desperately bad. In Case III. I

cannot say how thoroughly treatment was carried out, especially antiseptis, after I left the case, but think it was somewhat neglected.

The gravity of the symptoms should have excited alarm long before the boy was supposed to be dying, and the wound should have been thoroughly explored. In this case, as in Case IV. a large fragment was loosened by secondary intra-cranial pressure. These fragments at time of operations were properly elevated and were firmly attached, and though it is possible that they should have been removed entirely yet in thinking over the cases I am still of the opinion that my treatment of the fragments was the safest and most rational.

In Case IV we have an example of extensive, comminuted depressed fracture of skull, laceration and loss of brain substance, and finally cerebral hernia. I cannot but think that watchful support of the general powers and close attention to antiseptis by the use of the stronger solution of bichloride of mercury contributed very powerfully to the recovery of the patient. The frequent washing of the hernia with this solution was followed very soon by granulations springing up over the exposed part of tumor. From that time it ceased to grow and was soon absorbed.

My general rule of practice in all depressed fractures of the skull has been and will continue to be the *reduction of the fracture* without regard to the symptoms, and I think it is a safe rule. It, like other rules, has its exceptions. For example: In a case of slight depression with no severe constitutional symptoms, I would not interfere.

I do not think it necessary, for practical purposes, to go into a discussion of the difference between concussion and compression. My experience is that we find some of the symptoms of both conditions in most cases. We rarely see an uncomplicated typical case of either compression or concussion as they are described in the books. My impression is that concussion proper is merely a kind or degree of compression. It is something more than shock or jarring. In any case my first endeavor is to overcome shock of injury as far as possible. Otherwise the symptoms don't cut much figure in a case so far as the operation is concerned.

We can all remember cases of brain trouble, especially, epilepsy caused by fracture of the skull in childhood, that were allowed to go along with the expectation that nature would make good

all the damage, and the results prove that nature unaided is a very poor physician.

All surgeons know that operations upon the skull carefully conducted do not cause much shock. I do not think that the additional danger to a patient from an extension of the original wound in a skull injury, is worthy of much thought, when it is to be considered how much suffering and future trouble the operation may prevent. With our present use of antiseptics, especially the bichloride of mercury, the dangers of operation are reduced to a minimum.

As I have before remarked, I should advocate operating in all cases of depressed fracture with constitutional signs, or without constitutional signs, and again I should operate after an injury even without apparent fracture, if the constitutional signs were severe and continued, if I could locate the point of injury. This I should do expecting to find a spiculum from the inner table of skull or perhaps a clot producing compression.

The chief thing to do in all cases of fracture is to bring the parts back to their natural position and have them healed there. If this be true of other bones, how especially and undoubtedly true is it in fracture of the skull in childhood, where the brain and intellect are as yet unformed. Hardly less important is close attention to antisepsis and drainage. By bearing these vital points in mind and with that knowledge of the general principles of practice which every medical man should possess, these cases can be approached without fear and operated on with confidence in the final result.

DISINFECTION OF THE HANDS.—Duclos gives the following as an effective method of removing from the hands the fetid odor with which they become impregnated in post-mortem examinations of such cases as typhoid fever, or puerperal peritonitis and which generally remains so persistently: First wash the hands thoroughly [best with a nail-brush] with soap and water. Then wash them in a solution of potassium permanganate, (5 to 1000 or 5 to 100,) two minutes being long enough in the stronger solution. Then place the hands in a solution of bisulphite of sodium which will at once remove the discoloration caused by the permanganate, and remove all trace of the foul odor.—*Revue de Therap.—Med. News*, Feb. 19.

HYPERTROPHY OF THE LIVER WITH REFLEX PARAPLEGIA.

BY SAM'L MURDOCK, M. D., ONEIDA, KAS.

[*Read before the Northern Kansas Medical Society, Nov. 11, 1886.*]

No doubt in the practice of every physician fall cases that attract their attention more than others. This may be from the fact that they get results surprising to themselves, or results that the patient failed to get under other treatment by those we recognize as far superior to ourselves. Last spring, April 29, 1886, I was called to see Mrs. D, æt. 53, and mother of several children, the youngest 17. The reason for my call was to relieve indigestion. I found my patient in an invalid chair, and soon learned that she had not been able to walk or even help herself for over seven years. There was functional paralysis and complete atrophy of the muscles of all the limbs, but unusual vitality. Patient stated she had been treated for several years by professors of medical colleges and skilled physicians, and all had pronounced her case incurable. She had completely lost the use of her lower limbs, and had only partial use of right arm and hand. She had first noticed in walking a stiffness of the ankle joints, a stubbing of the toe when walking, and a gradual loss of strength until she became helpless, when vigorous treatment was begun, including nostrums, massage and electricity, all without any benefit.

On examination I found the liver filling the entire abdominal cavity, perfectly smooth and hard, with no tenderness at any point. This was a condition I had never met with before, and but for the fact that she said that all had attributed her difficulty to spinal trouble, I would not have offered more than something for indigestion. I prescribed

Syr. ferri iodidi, - - - - -	℥ss.
Tr. nucis vom., - - - - -	℥i.
Syr. simplicis, q. s. ad., - - - - -	℥iv.

M. Sig. Teaspoonful at 9 A. M., 3 P. M., and bed time.

External applications of croton oil over surface of liver twice a day for three days. Omit three days and then repeat, in the interval dressing surface with castor oil.

In two months this woman walked. My object in calling atten-

tion to this case is on account of the size of the liver, and its being reduced so readily, and the fact that it is now normal.

It is a question in my mind whether this was of long standing, and whether that could have been the cause of the functional paralysis. I will state that after that first prescription I added ergot, and alternated with phosphate of soda and damiana, and sponged patient with aqua ammoniæ. I hoped to exhibit this patient before this society, but circumstances have been such as to forbid.

Patient is gradually improving with strong probability of gaining full use of herself, and complete recovery.

ERYSIPELAS OF THE UPPER AIR PASSAGES.

BY J. TRUEMAN DAVIS, M. D., NORTH MADISON, INDIANA.

My attention has been called to this disease as it affects the upper air passages, by an article in the *New England Medical Monthly* Nov. 1886, by Dr. Wm. Porter, M. D., St. Louis, Mo. He says: "The recorded cases of erysipelas in the pharynx and larynx are few, but I have no doubt that the unrecorded cases are many." The doctor is doubtless correct in his conclusions, not only in regard to the disease under consideration, but also in regard to a great variety of affections met with by the country physician in his daily practice. Cases of great interest and importance, such as he has not read of or was not instructed in while in college, are treated by him according to the best light he has. He must rely upon his own judgment, for oftentimes he cannot avail himself of the aid and counsel of another practitioner, the distance being so great and the case of such a nature that he must act with promptness and decision. He treats his case, it recovers or dies. He does not report it, for first he thinks that he will simply be reporting something that, although he has not seen such cases, the main body of the profession are conversant with. The next reason is in many instances a feeling that if a country practitioner reports anything it will not be considered of any importance, for he is well aware of the fact that there is an opinion prevailing, that medical knowledge is at a maximum in the cities, and at a minimum in the country. Another reason is lack of time or disposition.

Dr. Porter says that two cases were reported last year by Dr. Delevan, one by Dr. Rohé, one by Dr. De Blois in 1884 and two by himself in 1880. He says these are the only cases found in American medical literature.

I will here record a case that occurred in my practice in 1870. July 30 of that year I was called to see Thomas Ridley, æt. 45, married, spare built, health previously good, intemperate habits, hygienic surroundings fair, in tolerably comfortable circumstances. On arrival I found him suffering with erysipelas of the head and face, and put him upon a treatment suitable for his condition. July 31 and August 1, patient no better. August 2, found him suffering severely with his throat. On examination, found the pharynx to be involved in the erysipelatous inflammation. His breathing became quite difficult, so much so that he could not lie down at all. Sent across the river to Brandenburg, Kentucky, for my friend Dr. D. C. Pusey, a gentleman quite eminent in the profession, but he could not come until the next morning. I desired him in preference to others for two reasons: first on account of his superior ability and noble-heartedness; second because he had formerly been the family physician of my patient. I remained with the patient all night, and gave him relief by causing him to inhale the steam from a teapot and such other measures as were deemed appropriate externally and internally. I applied a solution of argenti nitras to the pharynx, as recommended by Dr. Higginbottom of Nottingham. Internally gave tr. ferri chloridi and quinia, food in as concentrated liquid form as possible, and tried to give brandy, but this and all other stimulants he utterly refused to take. Dr. Pusey came in the morning. Patient was some better before he came. He agreed with me in diagnosis and thoroughly approved of the treatment. Patient continued to improve slowly, and was discharged on the 14th of the same month.

As the above case was the first I had met with, it caused me considerable anxiety as to the result. As nothing of the kind had been seen in that part of the country before, it caused a good deal of comment among the laity. And some of the younger members of the profession were disposed to question the correctness of our diagnosis.

Da Costa, in his *Medical Diagnosis*, page 336, says: "There is an acute disease of the throat to which Dr. Todd especially has called attention, (See his *Clinical Lectures on Acute Diseases*.)

which presents some strong points of similitude to diphtheria—erysipelas of the fauces.”

Watson says: “Erysipelas may extend to the throat. The submucous tissue of the glottis and epiglottis is filled with serum or pus, the chink of the larynx has been nearly or completely closed, and the patient dies of apnea.”

Tanner also speaks of erysipelas affecting the throat and causing death by suffocation.

Dr. Daniel Drake, “Diseases of the Interior Valley of North America,” says: If it should attack the mucous membrane of the throat, a mortal edematous laryngitis may supervene.”

Erichsen says: “Erysipelas of the fauces may occur in consequence of the disease spreading from the head and face to these parts, or it may occur as a primary affection.”

Heath’s Dictionary of Practical Surgery says: “Erysipelas occasionally attacks the mucous membrane of the pharynx. It may occur here either by spreading from the face, or it may commence as a primary affection in this part and extend outward through the nasal fossæ, and appear on the face at the orifices of the nostrils.”

Mackenzie gives us some observations in regard to it in his excellent work.

Lennox Browne does not say much about it.

In fact, some of our oldest works, monographs and cyclopedias, are silent in regard to it, and in the same category can be placed some of our latest works, both encyclopedias, systems and monographs.

Dr. Brouardel, of Paris, lectured on this affection in 1874. See *Med. Times and Gazette* of that year.

Ryland, Budd and others speak of this as a dangerous affection and one that, if not speedily relieved, will soon result fatally.

But I cannot cite authorities farther. I have referred mostly to older works mainly to show that the disease was known to many of our older brethren in the profession. The importance of the affection deserves the careful attention of every physician.

THE HODGE FORCEPS is a favorite in Philadelphia. Davis’s, Braun’s modification of Simpson’s and Wallace’s are the only ones which contest its supremacy.—Dr. Parvin in the *Polyclinic*, Feb., 1887.

RETAINED MENSES FROM IMPERFORATE HYMEN.

BY J. F. CAMPBELL, M. D., CALLAO, MO.

The absence of menstruation at the period of puberty depends on causes, either functional or organic.

Of the organic causes, "The ovaries may be wanting, or if present, they may be atrophied or diseased; the uterus may be absent or incompletely developed; the canal of the cervix may be closed; the os uteri impervious; the vagina absent, its sides adherent or its orifice closed by adhesion, false membrane or an imperforate hymen." (Churchill.)

In a case which lately came under my observation, and which I shall briefly present, the cause was that last mentioned, viz., an imperforate hymen.

On the morning of Aug. 5, 1886, I was called to see Miss P., æt. 16 years. She seemed to be quite distressed, and complained of pain in the lower part of the abdomen, which had prevented her from securing any rest during the past night. Her mother stated that she was "bothered about making water," and although she had been making frequent efforts, had passed but little urine since the day previous. On examination I found quite a degree of distention about the bladder: she also had considerable fever, as indicated by the temperature and pulse. I concluded that the immediate cause of the distress and suffering was an over distention of the bladder from retention of urine.

Not having a catheter with me, I immediately sent for one which, on being brought, was introduced into the bladder, and a large quantity of urine drawn off. The bladder being emptied, the distention subsided, and the patient experienced entire relief from pain and distress. Before leaving her I prescribed a diuretic treatment to stimulate the functions of the urinary organs, and prevent them from again becoming impeded.

But on Sept. 21, I was sent for to see the case again. I found her uneasy and restless, with pain in the loins and region of the bladder. Apparently, she was quite in the same condition as before. She had been unable to pass her urine by the natural efforts, and it had accumulated until the bladder had again become distended. The urine was promptly withdrawn by means of a catheter, and, as formerly, she was relieved and comfortable after the operation.

Supposing that the retention was due to an affection of the urinary organs, a special treatment was again prescribed for the kidneys and bladder, along with rest and saline cathartics, with a view to remedy the trouble and prevent its recurrence.

But on Nov. 16, word came that she was having another "bad spell," and I was urged to see her as soon as possible. Her appearance, while moving about the room, denoted distress and uneasiness. The pain of which she complained, as to its nature and seat, was, apparently, the same as before. But her mother stated that she had passed her urine regularly, with only slight difficulty, and, she thought, in the natural quantity. Still I found above the pubes a roundish, well defined tumor, a little less prominent, but quite similar to that which existed before. This led me to believe that the urine had again accumulated in the bladder, causing a condition of distention, and to test the matter an instrument was passed into the bladder, but only a small quantity of urine escaped. Up to this time I had supposed the patient was suffering from an affection of the urinary organs, of which the retention was a symptom, and the treatment was directed accordingly. But the indications were now changed, for it was certain that the enlargement above the symphysis was not that of the bladder, but of a neighboring organ.

The patient, although 16 years of age, had never "come round," and this fact, along with her symptoms of distress, pointed to a disordered menstruation. The most plausible conclusion was that nature was trying to establish the periodic discharge which had failed to appear on account of some irregularity. I suspected and mentioned to the family that there might be an obstruction which prevented the secretion in the uterus from being evacuated. But the patient being a young girl, I was a little over-prudent, and deferred an examination until an attempt had been made by medicines to overcome the symptoms. Opiates were given to quiet the pain, and such remedies prescribed as usually aid nature in bringing about the menstrual discharge.

But the treatment was of very little benefit to the patient, and may have been an actual detriment in promoting a secretion that could not escape. The symptoms continued, and at the end of about ten days I received word that the patient was growing worse and that unless relief was obtained she could not live. I found her as represented, for she was pallid and exhausted from protracted

suffering. The pain felt in the pelvis at first only at periods, had become constant, and with this there was also constitutional disturbance. The tumor in the lower abdomen was hard and projecting, imparting to the hand an impression as of a solid body, rather than of a fluid accumulation. An examination now made plain what was formerly suspected, that there was occlusion of the vagina, and that the menstrual blood had collected in the cavity of the uterus and vagina until there was danger of rupture from over distention. Seeing that the family had become anxious, I requested that Dr. F. B. Jackson, of Macon City, be called to see the case with me. The doctor, on examination, recognized the tumor pressing downward into the vagina, and decided that the impediment was an abnormally thickened and imperforate hymen.

The family consenting, we decided to operate at once. The patient was placed on her back across the bed, with her hips near the edge, and knees drawn upward, an oil cloth being placed underneath. An aspirating needle was first inserted into the tumor to test the nature of its contents, which proved to be the proper menstrual secretion. The membrane was then punctured with a small trocar which had been made thoroughly clean and aseptic. The fluid, which was of a dark, sanguineous nature, was allowed to escape gradually. After it had about ceased to flow, the opening in the hymen was enlarged and made in the form of a cross. The cavity was then gently washed out with a gradual stream of warm carbolized water. The next day I visited the patient; the discharge had continued more or less, but she was comfortable, and apparently doing well. At this time a plug of lint, saturated with carbolized linseed oil was inserted into the hymeneal opening.

With a request that her condition be reported, no further appointments were made to visit the case. Some four or five days after this her father called at my office, and reported that the discharge was still going on, and that she was growing weak, and at times had fainting spells. To restrain the discharge the fluid ext. of ergot was prescribed in full doses, also a pill every four hours, of the following composition:

R, Alum., gr. vj.
Ext. opii,
Catechu, aa. gr. j.

Mix and divide into six pills.

A few doses were sufficient to check the discharge. The patient

began to improve, gaining strength rapidly, and in the course of two or three weeks she was restored to good health and has continued so, being entirely freed from her former painful symptoms.

I am unable from statistics, to estimate the frequency of retention from imperforate hymen, but would judge that such cases are not frequent, as the one related above is the only case I have met with in a general practice of several years.

The early symptoms of the disease are sometimes misleading. The attention is called to a disturbance of the urinary organs which, for a time, may be the only abnormal manifestation in the case. The fact is overlooked that the retention of urine is caused by an imperforate hymen, which by totally preventing the escape of the menses, mechanically obstructs the urethra.

It is evident that an organic obstruction cannot be remedied by medical treatment, and if left to such a course the case will likely grow worse until it terminates fatally through rupture of the uterus or cervix. The operation, although very simple, is not, according to statistics, absolutely free from danger. The ovaries which are sometimes displaced and attached, may be ruptured by the sudden contractions of the sac, septic absorption may take place, and I believe there is some risk of serious exhaustion from continued discharge after the operation.

A MONKEY AFFECTED WITH YELLOW FEVER.—During the epidemic of yellow fever which prevailed the first year in Caracas, we had an opportunity to see, in the house of one of our sisters, a monkey with an undoubted case of yellow fever. The principal symptoms manifested themselves in a manner so marked that there remained not the least doubt that it was a case of yellow fever that we had before us. There was injection of the eyes, a certain state of stupor, sharp thirst, nausea, elevated temperature, and at last prostration, anuria and black vomit.

For three days the poor animal remained in this sad condition, each day growing worse and presenting in succession the symptoms described, until the fourth day, when the case terminated fatally.—*Doroteo de Armas (De Ensayo Medico de Caracas).*—*Am. Pract. and News*, March, 5, 1887.

EDITORIAL.

A LEGAL LIVING BIRTH.

In the last number of the *COURIER* reference is made to a question of viability of a fetus which was brought up by the report of a case at the St. Louis Medical Society in which this became a matter of medico-legal importance.

In *The Polyclinic* for February, there appears a paper by Prof. John J. Reese, which he read before the Medical Jurisprudence Society, Jan. 11, 1887, in which he discusses this subject.

Proof of a live birth in the true legal sense, he says, is "anything that will show that the child was living at the time of its birth." He observes that this does not regard the uterine age, whether the child is prematurely born or has reached the full term of normal uterine life, nor does it even involve the determination of its viability, or capacity for continued existence apart from its uterine connections, but simply and only the fact of its actually being born alive and living even for a few moments. If this can be shown, nothing more is necessary for the establishment of the legal rights of inheritance, etc.

While breathing, crying and vigorous movements of the limbs are the most satisfactory and conclusive evidences of live birth, Prof. Reese remarks that the laws of different countries vary greatly as to the proofs required. In the United States and England the "laws admit, as good and sufficient proofs of a live birth, the pulsation of the child's heart or one of its arteries, or the spontaneous movement of one of its limbs, or of its lips, or tongue, and this evidence would be strengthened by the pulsation of the umbilical cord, after the expulsion of the child."

Accepting this as the legal proof of live birth in this country, and England, Prof. Reese says: "We must admit that fetuses have been born *alive* as early as four months of utero gestation, and, of course, at all periods of a later date."

"BACK IN THE WOODS."

It is not often that it is worth while for an editor to take any notice in the pages of his journal of the criticisms made by subscribers in letters to the publishers; but occasionally such comments afford suggestions, of which we feel we should give our readers the benefit.

A letter recently received by our publishers contains the following: "I do not wish the journal continued. It is a pretty good journal, but many of the contributors are back in the woods. Calomel in the treatment of diphtheria and venesection for puerperal convulsions savors too much of ye olden time."

Of course this pronunciamento from a physician in a little village a few miles from the Missouri River in the centre of our state settles the question as to the treatment of these formidable diseases. Such men as Dr. Wm. H. Daly, the eminent specialist of Pittsburgh, (vid. *COURIER*, Nov. 1886, p. 401) will, at once, discontinue the use of calomel in diphtheria in spite of the fact that he has had better success from the use of that remedy than from any other plan of treatment.

And no practitioner of obstetrics will now think for a moment of resorting to bloodletting in any case of puerperal eclampsia, though Prof. Lusk, of New York, in his "Science and Art of Midwifery," p. 572, edition of 1885 says: "In my student days in Paris, at the Hôpital des Cliniques, where the ancient usage was in full favor, I well remember my first feelings of alarm at the rigor of the treatment in vogue; but after carefully watching the cases to the end, I

was led to conclude that the claims of bleeding in eclampsia rested upon a substantial foundation.

"The special advantage of venesection lies in the rapidity of its action: incidentally it favors absorption and renders the patient more susceptible to the influence of other remedies. It forms, therefore, naturally the first step in the treatment of convulsions."

Prof. Parvin, of Philadelphia, in his "Science and Art of Obstetrics," p. 260, (1886), the most recent volume in this department, says that while "bleeding ought not to be regarded as universally applicable. Nevertheless, in this day when the reaction against venesection is so strong, there is more danger from its being omitted in cases of eclampsia in which it is needed than there is of its being injuriously or unnecessarily used."

In the management of the *COURIER* we have sought to lay before our readers the results of careful observation and experience of honest men, and have gladly welcomed to our pages contributions from all such, whether resident in the backwoods of New York City and Philadelphia or in the metropolitan centres of Western Missouri.

We are glad to have our readers in city or country make use of the *COURIER* as a medium through which to report to their professional brethren any interesting cases which may occur under their observation or the results of their experience in the treatment or study of disease, or other topics of medical interest. It matters not whether these observations endorse the practice of the ancients or uphold the most modern theories, we give them to our readers simply as being in our opinion worthy of consideration. In no case is the *COURIER*, or any of its editors responsible for opinions advocated by the authors of original articles.

Opinions advanced editorially the *COURIER* will stand by or else will formally indicate their change.

CREMATION.

Cremation has been forbidden in Denmark on account of an ecclesiastical law passed in 1685 which prescribes burial as the only method of disposal of the dead. The parties who have erected a crematory in Copenhagen justly feel injured that they were not informed of the existence of this ancient law before they went to the expense of erecting their building. In St. Louis the Cremation Society have had many difficulties to overcome. It was planned to secure a lot and erect a suitable structure within the boundaries of beautiful Bellefontaine. A majority of the prominent owners of lots in that cemetery signed a petition to the Board of Directors to give the permission desired; but they declined on the ground that the land which constitutes that cemetery was given expressly for the *burial* of the dead; and they feared that allowing any portion of it to be used for any other purpose might nullify the title under which it is held, and lead to litigation and expense, if not to forfeiture. Why is it not equally a violation of the conditions under which the land is held for the gate-keepers and others to live within the enclosure, or for their horses or cows to graze upon parts of it?

After the failure of this attempt and of the attempt to obtain permission to erect a crematory on a lot opposite the eastern entrance of Tower Grove Park, the opposition at this locality being based upon the idea that it was an elegant residence neighborhood, and that, therefore, the selection of that as a site for the crematory was inappropriate, a site was selected directly opposite the Insane Asylum, on Arsenal street, in a locality where there are almost absolutely no residences at all; and an effort was made to secure municipal legislation which would permit the erection of a suitable building there and its use as a crematory. But there was at once developed a strong opposition by owners of adjacent property, on the ground that the location of a crematory there would still further depreciate the value of their property which in antici-

pation of the building of a new railroad and of important manufactories, they had just begun to hope would ere long become marketable and reward them for long waiting.

The latest report is that the society have now arranged to secure a tract embracing several acres lying south of the Insane Asylum, and that there will be no serious opposition to the carrying out of their plans in that location.

It is a notable fact that the opposition lately has in no case taken the form of opposition to cremation as a mode of disposal of the dead, but simply an unwillingness of property owners to permit the erection of a crematory in immediate propinquity to their holdings, by reason of apprehension that this would depreciate the value of their property and render it less marketable, an apprehension which, in view of the common feeling, is no doubt well founded.

The association has now adopted a plan which is the only one, probably, by which that kind of opposition could be met, viz., the procuring of such a tract as will enable them, by placing their building in its centre, to have it removed from objectionable proximity to present or prospective residences. As time passes, and it becomes conclusively demonstrated that nothing objectionable characterizes the practical working of the institution, they will doubtless be able to dispose of so much of their land as it is not deemed best to reserve for decorative park purposes, to good advantage for residences.

CLINICAL RECORDS.—We would call the attention of some of our readers who think it too much trouble to keep records of their cases, to the statement of Sir Andrew Clark, in a paper read by appointment before the British Medical Association at Brighton:

It has always been my habit to enter in case-books a record, more or less complete, of the history, symptoms, signs and treatment of the majority of patients who consult me at my own house. Every examination is made upon a uniform plan; and, whatever may be the matter with the patient, every physiological symptom is interrogated for the discovery of evidences of disorder or of disease.—*Brit. Med. Jour.*, Feb. 5, 1887.

BOOK REVIEWS AND NOTICES.

SURGICAL DISEASES OF THE KIDNEY. By HENRY MORRIS, M. A., M. B., F. R. C. S., etc. With 40 engravings and 6 chromo-lithographs. (Philadelphia: Lea Brothers & Co.; London, Cassell & Co.) 12mo., pp. 555; cloth, \$2.25.

This is another of the excellent manuals published simultaneously in this country and England, with the design of placing the best of medical literature within the reach of those of moderate means.

Mr. Henry Morris, the author of this volume, has distinguished himself in the special department of renal surgery, and has given in this work the results of an extensive observation.

After briefly considering the regional anatomy of the kidney the author first considers the displacements of the kidneys, making a distinction, which is rather anatomical than clinical, between movable and floating kidneys.

One point which should have been noted is the possibility of mistaking a floating or movable kidney for cancer of the pylorus, an error which has been made by able surgeons.

Then follow several chapters in which are discussed malformations and irregularities of development of the kidney.

Various injuries of the kidney without as well as with external wound are next thoroughly considered as to diagnosis and treatment.

Chapters XV and XVI are devoted to the consideration of "Perinephric Extravasations," and "Perinephritis and Perinephric Abscess," "Traumatic Nephritis," "Abscess of the Kidney," occupy the two succeeding chapters.

Chapter XX commences the discussion of Secondary Renal Diseases, which are successively considered in the following chapters "Hydro-Nephrosis," "Pyo-Nephrosis," "Acute and Subacute Interstitial Nephritis," "Suppurative Nephritis, Pyelitis, and Pyelo-Nephritis."

An excellent discussion of the condition which is variously

known as "Urinary Fever, Urethral Fever, Uremic Fever, or Catheter Fever," is found in chapter XXVI.

"Renal Calculus" is considered in Chapter XXIX.

The operations of nephrotomy and nephrectomy are discussed rather inadequately in the chapter devoted to the subject; but the deficiency here is supplied by the references to the same subject under other headings.

One excellent feature of this work is the complete bibliography given at the close of each department, in which it is satisfactory to observe that the author has by no means overlooked the work of American surgeons.

THE FUNCTIONS OF THE BRAIN. By DAVID FERRIER, M. D., LL. D., etc. Second edition, Re-written and Enlarged. With numerous Illustrations. (New York: G. P. Putnam's Sons.) 1886; 8vo.; pp. 498; cloth; \$4.00. (St. Louis: J. L. Boland, J. H. Chambers & Co.)

The recent brilliant operations in cerebral surgery which have attracted so much interest in the profession are the direct result of the study and experiments of Ferrier. While there are many points as yet unsettled with regard to cerebral localization, it has been demonstrated that some of the observations made by this experimenter upon animals are also applicable to men. It may be that the time is not far distant when we shall be able to apply the theory to man in its whole extent.

At all events the present volume, which the distinguished author has almost rewritten, and in which he has to some extent modified the views expressed in the first edition, is a most valuable contribution to the literature of the subject. We should all know the position taken by the most eminent worker in this direction of investigation; and while not all his conclusions may be regarded as fully proven, and some of them may ultimately prove to be unfounded, his work is of the highest importance and value.

CLINICAL MANUAL FOR THE STUDY OF MEDICAL CASES. Edited by JAMES FINLAYSON, M. D. Second edition, revised and enlarged. With one hundred and fifty-eight illustrations. (Philadelphia, Lea Brothers & Co.) 1888; 12mo.; pp. 683; cloth.

The importance of exactness in diagnosis and accuracy of clinical investigation can hardly be overestimated.

But little experience is necessary to assure the student and practitioner that there are very few "pathognomonic signs" of diseases.

It is only by close observation of details systematic investigation of varied symptoms in the *combination* present in the particular case that leads to accurate conclusions and satisfactory results.

Dr. Finlayson's book "does not aim at supplying any short and easy road to medical diagnosis; its object is to guide the student to a careful examination of the symptoms in his patient, and to supply information as to the methods and results of clinical investigation."

Recognizing the importance of the work of specialists during the last few years, Dr. Finlayson has secured the co-operation in some special departments of men who have attained eminence therein. The chapter "On Insanity" is prepared by Alexander Robertson, that on "Examination of the Fauces, Larynx and Nares," by Joseph Coats, that on Disorders of the Female Organs, by William Stephenson, and that on Examination of the Chest and Abdomen, by Samson Gemmell.

While the authors of these chapters manifest in some particulars the common and natural tendency of specialists to emphasize and perhaps to exaggerate the importance of their own departments, the work on the whole is an excellent one, one which might with advantage find a place in the library of every student or practitioner.

THE PEDIGREE OF DISEASE. Being six Lectures on Temperament, Idiosyncrasy and Diathesis. By JONATHAN HUTCHINSON, F. R. S., etc. (New York, Wm. Wood & Co.) 1895. 8vo.; pp. 107; cloth.

The observations of such a close student as the author of this work are always of value to other students in the same line.

He regards the matter of temperament as of far greater importance than is now generally admitted. He defines it "as the sum of the physical peculiarities of an individual, exclusive of all definite tendencies to disease."

His definition of idiosyncrasy is, "any definite peculiarity of organization of which the consequences may occur unexpectedly and otherwise inexplicably."

Diathesis is "any bodily condition, however induced, in virtue of which the individual is, through a long period, or usually through the whole life, prone to suffer from some peculiar type of disease."

Mr. Hutchinson does not accept the germ theory of diphtheria and erysipelas, as shown by his remarks in Lecture III.

These lectures are worthy of the thoughtful consideration and study of all. They are the result of an exceptionally large experi-

ence, and are the observations of one whose eminent ability in different branches of our profession is as well known as it is rare.

SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, M. D., etc. (Philadelphia, Lea Brothers & Co.) 1886; 8vo.; pp. 701; cloth or sheep.

Prof. Parvin has too recently moved from the West for Western men, students and practitioners to have lost their interest in his works and writings, so much the greater part of which has been done while a practitioner and journalist in the west.

Yet not only as a western man do we welcome this new volume on obstetrics. It will be read and studied with satisfaction and profit, and we are glad to note that the author speaks with emphasis of the importance of antiseptic precautions, not only in operative interference, but also in the general management of labor and the puerperium.

It is to be regretted that the work of the German school of obstetricians who have done so much excellent work of late years is comparatively so little noticed by our author; and the pages which discuss puerperal fever are rather less definite as to some points of pathology than we should wish, while the account of rupture of the uterus is much less satisfactory than the rest of the volume.

Prof. Parvin has, nevertheless, given in this volume an additional vindication of the reputation which he has acquired as a teacher and a writer, and of the wisdom of the trustees of Jefferson Medical College in inducing him to accept a chair in the faculty of that institution.

A TEXT-BOOK OF PATHOLOGICAL ANATOMY AND PATHOGENESIS. By ERNST ZIEGLER. Trans. by DONALD MACALISTER, M.A., M.D., etc. Part II. Special Pathological Anatomy. Sections IX-XII. (London and New York: Macmillan & Co.) 1886. 8vo.; pp. 391; cloth, \$3.50. (St. Louis; J. L. Boland, J. H. Chambers & Co.)

Dr. Macalister has done the medical profession a real service in the translation of Ziegler's valuable work on Pathological Anatomy and Pathogenesis. The preceding volumes have already been noticed in our pages, having appeared nearly two years ago.

Section IX treats of the urinary organs, malformations, disorders of the renal circulation, renal deposits, degeneration and necrosis, inflammations in and around the kidneys, bladder, urethra and suprarenal capsules.

Section X considers the morbid changes observed in diseases of the respiratory organs.

Sections XI and XII are devoted to the study of the pathological changes in the central and peripheral nervous system.

The illustrations are unusually good, and remarkably faithful representations of microscopic appearances. The letter press and paper are excellent.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. First Session, Washington, D. C., June 17 and 18, 1886. (Philadelphia, Wm. J. Dornan, Printer.) 1886. 8vo.; pp. 261; cloth.

The present volume make a very creditable showing for the first meeting of this new society.

The papers which were presented there were all prepared with care by men who had thoroughly studied the subject which they discussed, and are well worth preservation in a permanent form. Most of them, possibly all, have appeared in full in various medical journals, and abstracts of a number of the most valuable ones have been laid before our readers.

We, therefore, simply call attention to the fact that these papers have been grouped together in one volume which deserves a place on the shelf of the physician who wishes to keep up with the best thought of the day. The succeeding volumes of transactions of this society will be a valuable part of coming medical literature.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.—*Special Pathological Anatomy.* By Ernst Ziegler. Translated by Donald MacAlister, M. A., M. D., etc. London and New York, Macmillan & Co., 1886; 8vo.; pp. 391; cloth, \$3.50. (St. Louis, J. L. Boland: J. H. Chambers & Co.)—*Diseases of the Lungs and Pleuræ.* By R. D. Powell, New York, Wm. Wood & Co., 1886. 8vo.; pp. 347; cloth (Wood's Library).—*Diseases of the Blood and Nutrition and Infectious Diseases.* By H. Eichhorst, M. D., etc. New York, Wm. Wood & Co., 1886. 8vo.; pp. 407; cloth (Wood's Library).—*Aphorisms in Rectal Disease.* By W. E. Ryan, M. D., Baltimore, I. Friedenwald, 1886; 12mo; pp. 102; cloth.—*Manual of Operative Surgery.* By Joseph D. Bryant, M. D., with about 800 illustrations. New York, D. Appleton & Co., 1887. 8vo., pp. 530, cloth. (St. Louis, J. L. Boland & Co.)—*A Text-Book of Medicine.* By Dr. Adolf Strumpell, with 111 illustrations. New York, D. Appleton & Co., 1887: 8vo., pp. 981; cloth, \$6.00. (St. Louis, J. L. Boland & Co.)—

—Text-Book on Surgery. By John A. Wyeth, M.D., New York, D. Appleton & Co., 1887; 8vo.; pp. 777; sheep.—Diseases of the Joints. By Howard Marsh, F.R.C.S. With 64 illustrations and a colored plate. Philadelphia, Lea Brothers & Co., 1886, 12mo., pp. 461; cloth. (St. Louis, J. L. Boland & Co.)—Clinical Diagnosis. Edited by James Finlayson, M. D., Second Edition revised and enlarged. With 158 illustrations. Philadelphia, Lea Brothers & Co., 1886; 8vo.; pp. 683; cloth. (St. Louis, J. L. Boland & Co.)—Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D. Illustrated with 214 wood-cuts and a colored plate. Phila., Lea Brothers & Co., 1886; 8vo., pp. 701, sheep. (St. Louis, J. L. Boland & Co.)—Operative Surgery. By Stephen Smith, A. M., M. D. New and revised edition, illustrated with 1005 wood-cuts. Phila., Lea Brothers & Co., 1887, 8vo., pp. 877; sheep. (St. Louis, J. L. Boland & Co.)—Reference Handbook of the Medical Sciences. Edited by Albert H. Buck, M. D., Vol. IV. New York, Wm. Wood & Co., 1887. Quarto; pp. 816; cloth, \$6.00; sheep, \$7.00; half-morocco, \$8.00.

PAMPHLETS AND REPRINTS.—Two Papers. By W. H. Daly, M. D. I. Laryngology and its Cognate Branches in America. II. The Simplest and Most Efficient Treatment of Diphtheria. (Read before Am. Laryn. Ass'n at its Eighth Am. Congress, 1886). The Relative Influences of Maternal and Wet Nursing on Mother and Child. By Joseph Edcil Winters, M. D. (Med. Rec.) Moral Insanity: A Plea for a more Exact Cerebral Pathology. By James Hendree Lloyd, A. M., M. D. (Jour. Nervous and Mental Disease.) A Novel Procedure for the Removal of Subglottic Laryngeal Growths. By Wm. Chapman Jarvis, M. D. (N. Y. Med. Jour.) On Certain Mooted Points in Gynecology. By Thos. Addis Emmet, M. D. (Brit. Med. Jour.) Sterility. By Wm. H. Wathen, M. D. (S. W. Med. Gazette.) Annual Report of the Superintendent of the Cincinnati Sanitarium for 1886. Common Errors. By Orpheus Everts, M. D. (Am. Jour. of Insanity.) Sterility, Management of the Secuudines. By Wm. H. Wathen, M. D. (So. West Med. Gaz.) Report on Diseases of the Rectum. By Joseph M. Mathews, M. D. New System of Uterine Medication. By Eugene C. Gehrung, M. D., St. Louis, Mo.

POISONOUS ARSENICAL WALL PAPERS.—Prof. Jas. R. Chadwick reported recently to the Suffolk District Medical Society the result of an experience in his own family, by which he was convinced that protracted ill health of two of his children, dyspepsia, colicky pains, headaches, palpitation of the heart, pallor and debility were due to the presence of arsenic in the wall paper of the nursery in which much of their time was spent.—*Bost. Med. and Surg. Jour.*, Feb. 10.

TRANSLATION.

SAMARITAN LETTERS.

BY DR. FRIEDRICH ESMARCH, *Professor of Surgery in Kiel, President of the German Samaritan Union.*

Translated by MRS. EMILY A. NELSON, ST. LOUIS.

FIFTH LETTER.

After the fourth lesson the operation of skilful artificial respiration should be practised, which must be exercised in the resuscitation of those apparently drowned, suffocated or frozen, as illustrated in Figs. 4, 5, and 6.

At the conclusion of the fifth address, the drill in transporting the injured is taken up. A litter which is necessary for this, (Fig. 7.) you should be able to borrow from your dispensary, but if not you must improvise one from tree limbs, poles and a counterpane, (Fig. 8-14). Should you succeed in founding a Samaritan Union, the largest expense in providing for it, would be (were I to advise you) in procuring from the St. John's Ambulance Association in London one of Furley's wheeled litters. (Figs. 15-16). This is especially well constructed for the transportation of injured ones through a long distance, since the litter can be very easily lifted off the wheels, if so needed, and as easily replaced. But not less important in this connection is the drill in carrying unfortunates with the hands, to which resource the helpers are reduced when no litter is at hand nor means of constructing one. (Figs. 17-21.)

To each of your hearers you can furnish from the German Samaritan Union, after the close of the drills a "Catechism for the First Assistance," which serving as a brief and concise reminder of the school, recalls to recollection the help which the Samaritan can afford until the arrival of the physician.

Whether at the close of your lectures and drills you institute an examination with your students and give them a certificate or

not, I must leave to you. A certificate of excellent standing has for the Samaritan the advantage, that on the occurrence of accidents, if this be shown to them, the curious bystanders will follow



Fig. 4.



Fig. 5.



Fig. 6.

his advice and willingly obey his orders in lending aid, until the arrival of a physician.

Since, however, the physicians, (especially in the larger cities,)

have shown such a horror of examined Samaritans, it is best to leave this to the good will of those around.

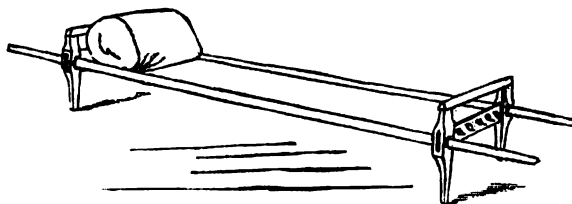


Fig. 7.

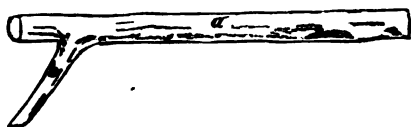


Fig. 8.

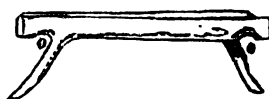


Fig. 9.

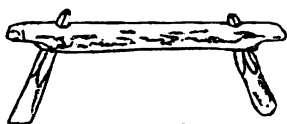


Fig. 10.

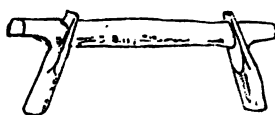


Fig. 11.

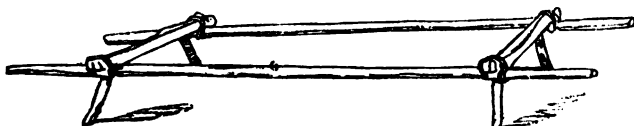


Fig. 12.

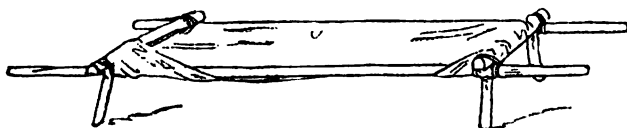


Fig. 13.

At the close of your letter, you express the wish that in every household the articles demanded for the first use in sudden catastrophes should be at hand, and that where many human beings are busied at the sametime at work attended with danger, as, for example, in factories and mines, on ships, railroad trains, etc., these same ar-

ticles needed in emergencies should be prepared in greater quantity. In this I am of one mind with you. It is also the very lesson

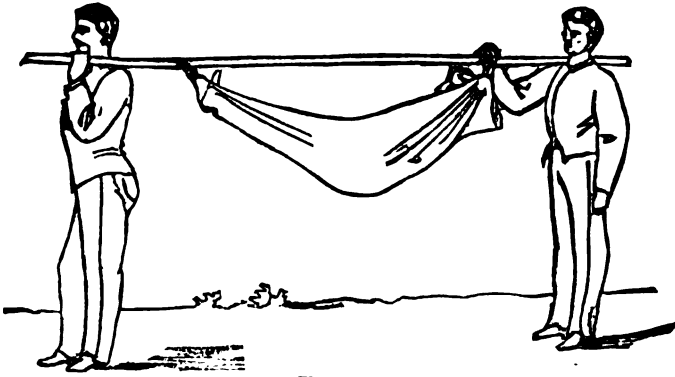


Fig. 14.

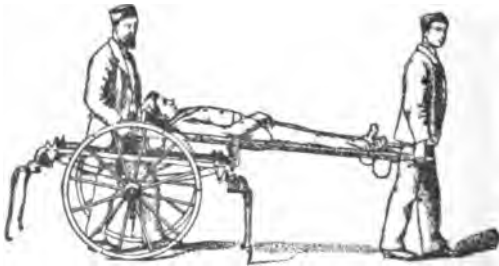


Fig. 15.

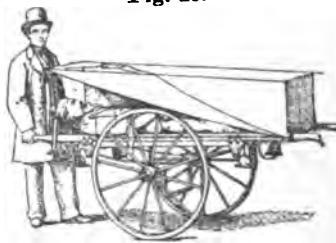


Fig. 16.

which I have put second for the German Samaritan Union, to gather these different means of aid in convenient form with wise selection, and with them provide not only for the individual Samar-

itan, but also for a whole community. And that you may see what is already done in reference to this, I will describe to you the different kinds of "aid chests" whose contents have been selected according to my specifications. In the first place I have had prepared as



Fig. 17.



Fig. 18.

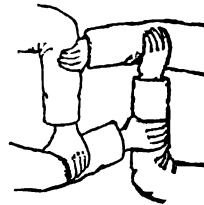


Fig. 19.



Fig. 20.



Fig. 21.

FIRST HELP IN THE HOME

a small casket which holds only so much as is necessary, where it need not be too long a time before medical aid can be summoned, and which is also appropriate for homes in the city. These contain a triangular cloth, two bandages, a little packet of antiseptic wadding, a vial which contains 200 grammes of 3 per cent carbolic acid solution, and a smaller one which holds 100 grammes liniment for burns, (linseed oil and lime water with thymol or iodoform), an elastic suspender for checking hemorrhage, and lastly my catechism.

A larger chest of conveniences I have had prepared at the desire of His Excellency, the State Secretary, Dr. Von Stephan, for the railway postal car. Its contents are for sudden accidents, such as are so frequent in the railway postal service, for the postmen who need and are entitled to assistance, and within a short time every railroad postal car in the German Empire will be provided with such a chest, after the postmen have all been instructed in the details of Samaritan help. These

MAIL-EMERGENCY CHESTS

contain,

1. A strong pair of shears in a leathern sheath, used for cutting off garments. I consider these an important instrument in the first help. The shears must be, however, so large and strong that one can cut with ease even boot-leather, and thus expose the injured parts of the body without causing pain.

2. A piece of wood wool.

3. A piece of English adhesive plaster, (both for dressing smaller wounds.)

4. A roll of sublimate-wadding.

5. A small packet of disinfected wadding for dressing larger wounds antiseptically.

6. Five bits of sublimate-wadding and gauze for cleansing, (instead of sponges).

7. A vial with 200 grammes of 3 per cent carbolic solution for washing and purifying the locality of the wound and the hands of the helpers.

8. Five bandages with safety-pins for fastening the ends of the bandages.

9. Four wooden splints with metal sheath on each end to shove upon each other for the purpose of lengthening, if necessary.

10. Five large, triangular cloths with safety pins.

11. An elastic girth, (or tourniquet) for the checking of hemorrhage, with a cut illustrating its application.

12. A vial containing 100 grammes linseed-oil and lime-water with the addition of 1 per cent of thymol (or 10 per cent iodoform) for burns.

13. A metal wash-basin for pouring out the carbolic solution.

14. A little flask with 10 grammes cholera drops.

15. A little flask with 10 grammes Hoffman's drops.

16. A small metal box with a few pieces of sugar, upon which to drop the above named remedies.

17. A flask of pure carbolic acid for canterizing poisoned wounds and for preparing the weak solution by mixing it with water.

18. A flask of spirits of ammonia for reviving the unconscious.

19. Lastly the catechism which recalls to mind the manner of using all these appliances.

All the apparatus is well packed and provided with labels and brief directions for use, so that even those untrained can easily find what is necessary.

These chests, constructed of oak and provided with strong metal bands, have their specified place in each postal car. They are also often prepared for large estates far distant from medical aid and for small manufactories in which minor casualties are frequent.

For larger manufactories, ships, railways, etc., we have had prepared a large chest, which contains splints, cloths, dressings and bandages in large numbers, so that even in a great disaster the necessary material is at hand. I hope and wish that in time every express train may be equipped with such a large Samaritan chest, as is the case on some of our railways at present.

But I go both in wish and hope much farther. Already in 1867 I made the proposition at the convention of the delegates of the Red Cross, that the societies for the succor of wounded and sick soldiers in the field should endeavor to organize after the manner of the Berlin firemen, that is under regulations, so that in time of peace on the occurrence of great calamities, (as in large railroad disasters, explosions, floods, epidemics, etc.,) skilled aid could be promptly rendered.

In this way we would be in position to gain experience in preparation for war.

They considered my proposition impracticable. In the following year 1866, at the general convention of the Central Committee in Berlin it was again brought up and propounded more in detail, but aroused there no sympathy, because they considered more important counsel over the paragraphs of the Geneva Convention.

In 1869, at the International Conference of the Bands of the Red Cross, the proposition was again discussed, and as a result this conference adopted the resolution that: "This lending of aid in the urgencies of injury and suffering in time of peace is necessary for a vigorous development of "aid-unions" and is a serviceable preparation for war."

But these theoretical recognitions had at this time no practical consequences, and so came upon us the great war of 1870-71, in which undeniably the Societies of the Red Cross developed an immeasurably beneficent efficiency.

Since the war, so far as I know, my suggestion has not been yet taken under consideration, but nevertheless I do not relinquish the hope that, sooner or later even in Germany it will come to fruition, especially since in this connection the Americans have preceded us with a good example. Already there are organized exactly in accordance with the advice I have given them, in the larger cities of North America Samaritan unions for "the first aid."

If in New York, Boston or Chicago a human being is injured or taken suddenly ill in the streets, through the telephone the nearest dispensary is notified. At each large hospital there are stationed day and night carefully constructed wheeled litters and ambulances, so that in a few moments, supplied with physicians, well trained assistants, and everything that is necessary in the earliest relief, they hasten to the locality of the accident, lend the first assistance and bring the unfortunate in the promptest possible manner to the hospital. In regard to the blessing of this instruction and previous preparation there is to be heard but one opinion in America.

Also in England the St. John's Ambulance Association begins to take rapid strides in giving this instruction. Under the leadership of the tireless John Furley, and with the sympathetic assistance of distinguished physicians, (both civil and military), and many people of lofty social position, this mode of transportation of sick or wounded is carried out in London in a way similar to that in New York.

No less suggestively do the "Vienna free-will-salvage corps" work under the indefatigable leadership of the world renowned Prof. and Baron Von Mundy. The last yearly report of this society, which I have just received, announces over 2323 cases of lending aid, and 2088 of use of the means of transport for the suffering which have been carried out in the last two years by their own efforts.

Without doubt in time these examples will be followed, even in Germany. There is only with us something of a delay before we get to the point of considering the plan practicable and begin to warm toward it.

We medical men all know how often through delay of the first assistance or through injudicious aid the consequences of sudden accidents are rendered more serious; but in the consciousness of our people it is not yet by any means deeply enough impressed how beneficial the prompt and correct help in sudden accidents is. When with us the enlightening in this direction has made further progress, when not only each educated man, but also the majority of Germans have already learned in school what a fracture of the leg is, and how the ill consequences of one can be intensified by improper transport into an inestimably severer injury, how one can bleed to death from a severed artery, if swift help is not at hand, and how one can awake to life another apparently suffocated or drowned; then and then only can we hope that with us similar instruction will be considered necessary, and will receive due support. And, as I hope, the German Samaritan Union will have done much toward accomplishing this end.

Emphatically a small city like Kiel is not the suitable place for beginning such grand instruction, because here neither is the need so great nor are the necessary appliances at hand.

The appropriate place for this is the capital city, with its enormous dimensions and rapidly increasing population. If there the Samaritan Union, with the Unions of the Red Cross and the staff of the hospitals would pledge themselves to a common work, a blessed efficiency in this direction would be developed.

So I hope that the time is not far distant, when in Berlin "the first aid" and "the transport of the injured" will be so widely known that our capital city can worthily place itself at the side of London and New York. But until that time the Samaritan Union will not allow its hands to lie idly in its lap. It will next busy itself with the problem of conveying as judiciously as possible the sick and injured from the most distant parts of our city and from the dockyards on the eastern side of the harbor of Kiel, where such serious casualties occur, to the hospitals. We have with this design already furnished ourselves with two Furley wheeled litters, and intend next to have built a comfortable ambulance. However, as soon as the construction of the great North-East sea canal is undertaken, we must extend our activity further in this direction. For without doubt at this great public work which must for year employ thousands of laborers, numerous cases of injury and illness will occur, which will make imperative a swift

and careful removal to the hospitals, so we design to take this transportation in hand with the help of well educated Samaritans. When the railroad from Kiel to Holtenau and along the canal is built, we will endeavor to secure a railway car for this purpose, and fit it up in the most complete manner with necessary appliances for rendering "the first aid."

The German Samaritan Union in the meanwhile will confine itself to such modest beginnings of its industry as offer in that direction, especially on the ground that the necessary appliances for greater undertakings are lacking.

Aside from a few limited annual subscriptions and a small profit from the sale of its teaching apparatus and appliances for aid, the German Samaritan Union has no definite income.

Only the donations supplied at its origin, and the contributions of the life members in connection with the entirely free management through the business ability of the directors have made it possible hitherto to afford such expenditures as they have volunteered in connection with the Union, or put it in its power in recent years to repeatedly send physicians to the stations of the German Society for Saving the Shipwrecked, for the purpose of instructing the force in "the first aid."

The German Samaritan Union follows a similar purpose with this society. It will in accident bring aid and save the perishing.

When this which it strives for has found more general recognition then, perchance, will its means have increased so favorably that it will be in condition to bring to fulfilment even farther reaching schemes than these.

ALCOHOL AS AN ANESTHETIC.—At a meeting of the Baltimore Academy of Medicine, Dr. W. C. Van Bibber reports three cases of labor in which complete anesthesia was induced by the use of alcohol to the extent of intoxication. He claims to have had the best success from a similar use of alcohol in case of puerperal eclampsia.

Dr. T. A. Ashby had seen alcohol used as an anesthetic in a surgical operation, which took an hour and a half for its performance. In that case, however, he thinks the efficiency of the agent was increased by the fortitude of the patient and his fondness for the spirits.—*Med. and Surg. Rep.*, Feb. 19.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, January 20, 1887.

ELECTRICITY IN THE TREATMENT OF UTERINE DISPLACEMENTS.

Dr. Engelmann read a paper on this subject (Vid. March COURIER, p. 193, April COURIER, p. 297.)

Dr. Frank Glasgow.—I would like to ask Dr. Engelmann a question in regard to the first case. He stated that there was ante-flexion with stenosis, and that he used a small copper wire with a galvanic current, the negative pole in the uterus. I should like to know what power of current he used, stating it either in milliam-pères or by the number of cells; the latter would, perhaps, be more intelligible.

Dr. Engelmann.—It is very unsatisfactory to state the number of cells, because I can accomplish an effect with four cells in one case which may require thirty cells in another. I used a current of thirty milliam-pères, and finally increased it to forty, but to be effective, from twenty to thirty are absolutely necessary. When you obtain the electrolytic effect you will see foam escaping from the cavity and forming around the electrode. Now 10 milliam-pères will not do what it will take 15 or 20 to do; but if you use 40 or 50 and over, you will find a ball of foam like a cherry, increasing in size, and of a pale yellow gray color. This is an evidence that you are achieving a cautery action. The negative pole acts as a chemical cautery directly to the mucous membrane, in addition to the electrolytic effect upon the tissues of the uterus. I stated that I used copper wire, not that that was essential, but any metallic electrode will answer, of course insulated up to a little beyond the external os. The copper is very pliable, and for that reason I used it. After three applications of a strong current I was enabled to use the ordinary size sound, when I had bent it thoroughly, and

after a few more treatments I could introduce the ordinary slightly curved sound. With the negative pole you can use any metal. If you were to use the positive pole, you would be obliged to use platinum or gold, because if you used that pole with any effective current, that is such as would affect tissue at all, it would also affect the metal, and if you used a copper or silver positive pole in the uterus, you would find, after an application of a few minutes with a strong current, that you could not pull it out, for the metal becomes corroded and imbeds itself in the partially cauterized tissue. If you use a copper probe with such a positive current, you will find the greenish foam and greenish particles of tissue, and this foam that forms around the pole with a strong current is the result of the disintegration of the tissues—rather of the fluids of the tissues. It is precisely as if we were to pass it through water—we see the hydrogen rising upon one pole, the oxygen upon the other. As I say, we do not get this foam unless we use a strong current, 20 milliampères, or more.

Dr. Prewitt.—Do you consider that a perfectly safe course to pursue? I mean using an electric current so powerful as to produce that amount of action.

Dr. Engelmann.—That is the question. It certainly looks a little doubtful; but we know that much can be done there, if it is done correctly. I think that if we use the current judiciously and with the necessary precautions, there will be no difficulty. I presume I use this treatment upon eight or ten cases every day in my office and in the clinic. Those clinic patients, many of them, walk home. We are using the current in fibroids; perhaps, however, figures will convey no idea. I would say that we use enough electricity to decompose as much as an ordinary glassful of water, if passed through the water in a normal current. Of course this is like a surgical operation. It may cause inflammation, a cellulitis or peritonitis. A terrific hemorrhage occurred in one patient that I have seen. This came on once when she was on the table; it came on in the streets cars a second time, when she was going home; and once it came on six hours after the treatment—a terrific hemorrhage.

When it came on on the table, I saw what it was, and worked faithfully half an hour before I could get the parts cleared enough to go on.

Dr. McPheeters.—Was this the result of the electricity, or was she subject to it before?

Dr. Engelmann.—She had not been subject to hemorrhage; on the contrary, she had always had a very scant menstruation, had never lost blood to amount to anything, but I can hardly believe that it came from the point of puncture. However, the negative current does favor bleeding, and it is the one danger. In fibroids, where the patient is subject to hemorrhage, we should not use it until the hemorrhage is overcome, and it must be attended to with all possible precautions. For instance, when the pole which I would call the dispersing plate, which is not an active agent, but merely necessary, as the handle is to the knife—it is necessary to establish the current—when this pole is placed upon the abdomen, if there is a small scratch, or an excrescence of any kind, or a little pimple, you must cover that with adhesive plaster, because the burning would be intense. The heavy scales of epidermis being off and the soft tissue exposed, the current at once seeks that point of entering. If there is the slightest motion of any kind which would jar the plate, changing the points of contact, the patient receives a terrific shock; you must avoid all shock. At the clinic, where we have a portable battery standing on a chair, no one can place his hand on that chair without sending shocks through the patient. If one walks heavily across the floor, she feels it. One of the advantages of the galvanometer is that if the current varies in the least, you see the movement of the needle, which indicates that there is shock, and by its use we are enabled to know exactly what is going on. If one of the screws is not tight, and there is a little slipping, it sends a shock through the patient, and this must be looked to. Besides this all antiseptic precautions must be taken, the vagina must be cleansed before the application of the electricity, and it must be cleansed afterward. We wash it out with carbolyzed solution, dust it with iodoform and place an antiseptic tampon of iron cotton against the os.

Dr. Frank Glasgow.—I asked Dr. Engelmann the question in regard to the strength of the current, in order that we may not lose sight of the future effects of this treatment. There is certainly a cauterizing effect, and the cauterizing of the cervical canal, especially at the internal os, may lead to future trouble; although we may get a dilatation, we certainly get enlargement. I had a case a year or a year and a half ago which was almost identical with the one which Dr. Engelmann has reported. A young woman, 23 or 24 years old, had suffered with dysmenorrhea, almost from the

time she first menstruated. The flow was very scanty. Each menstrual period caused much nervous disturbance. There was ante-flexion. I could not get the finest probe into the uterus; it would not pass the internal os, so I applied galvanic electricity. I had no uterine applicator at that time, so I used an Elliot's flexible uterine repositor. I simply attached one of the wires from the positive pole to the metal thumb-screw of the repositor. A wire runs through to the end where there is a small olive-shaped tip. As near as I recollect I used four or five cells.

Dr. Engelmann.—Did you get through the point of flexion?

Dr. Frank Glasgow.—I could not get even the smallest probe in the first or the second time I saw her, but the third time I did get in with a small probe. The next time this repositor itself passed in without any trouble, and after that I used Peasley's dilator. I do not believe that I saw the patient more than seven or eight times. The flow became more profuse, lasting four days. She said she never had had so much of a flow before, but she was rather sore. The next monthly period she still had some pain. The period after that I did not see her, and for the last month or two she says she has felt very well, better than she has been for many years. I do not believe there was any cauterization. I think the effect on the uterus was a tonic effect, that is, a straightening of this flexed uterus, because I found afterward that it was still somewhat flabby. I could straighten the canal partly by pulling the cervix downward. I think it was a tonic effect, and I got the result that Dr. Engelmann speaks of without cauterizing, which I think would be dangerous in the long run.

Dr. G. A. Moses.—I was very much interested in the report that Dr. Engelmann has made. I read Apostoli's work with a great deal of interest, and ever since the subject of electricity in gynecology, has inspired me with a hope that it may be beneficial in a vast number of cases, such as Dr. Engelmann has referred to. These cases have heretofore been the opprobrium of gynecology. I am satisfied that the effect of electricity in these cases is, as the doctor has mentioned, achieved through its influence in removing pathological conditions which are the real causes of or rapid sequels to displacements and particularly flexions. I look upon flexion, even where it seems to have been coincident with early life, almost congenital, as the effect of chronic inflammation, or at least, of a very serious interference with proper nutrition of the parts. It is in the

removal of the results of this inflammation that we find the relief following the application of electricity, and the consequent correction of flexions and stenosis which accompanies these flexions, preventing the passage of the monthly flux or the introduction of a probe. As soon as the pathological condition is relieved, we find the flux discharged and the probe enter with comparative ease, as in the case which Dr. Glasgow has cited. The first case in which I ever used electricity under these circumstances was about twelve years ago. The patient presented herself to me suffering from amenorrhea, at least, from scanty menstruation with excessive dysmenorrhea, and upon examination I found that it was impossible to introduce the smallest sized silver probe: there was very decided ante flexion. As a matter of experiment, having failed entirely to introduce an instrument, I commenced the use of the galvanic current. I don't recollect how many times the battery was used before I finally succeeded in passing the probe, but I do remember very distinctly that after the first month's use she menstruated with comfort, and I continued the treatment until the patient menstruated normally, and the probe could be introduced with ease; the canal seemed almost normal in direction. Other cases of the same sort have satisfied me of the value of this mode of treatment, which is now becoming very thoroughly understood, and more scientifically pursued than it had been up to the time of the publication of Apostoli's method. I don't see, however, that we know much more than was described by Beard and Rockwell some years ago. They claimed that it acted as a tonic stimulant, and by this means removed the results of inflammation, permitting of the improvement of the circulation and the general nutrition, and so allowing the tissues to resume their normal condition. Of course the various displacements will be removed in proportion as these diseased conditions can be relieved, aided by mechanical appliances which we now have at our command; still, we must look upon this mode of therapeutics as largely experimental, and I must confess that as yet I have rarely undertaken to use electricity in a case without feeling there was some uncertainty as to the outcome. I have frequently been disappointed. This is, no doubt, due to the fact that we have not yet arrived at the proper mode of application under each individual circumstance, but I am sure it will not be very long before we correct the present errors.

Dr. Glasgow.—There is one matter in connection with the use of

electricity in these cases which I do not think either Dr. Engelmann or Dr. Moses lays sufficient strength upon, and that is its anesthetic effect. I think this effect is most marked. In some cases in which I have used it, the effect comes on before the patient leaves the table. In other cases it does not occur until a day or two afterwards, and I have seen one case where it did not come on for nearly a week, when the patient will go for nearly two weeks or so without pain. This case I have not understood very thoroughly; it was a case of prolapsed cystic ovary and retroversion between the first and second degree, and I treated it by the ordinary means for a long while without any effect, and it was not until I used the galvanic current that I got any relief. There was a great deal of tenderness about the pelvis and about the ligaments. Posteriorly there is nothing to be felt. The patient is rather fleshy, so that I was not able to feel anything through the abdomen. The uterus is higher than it was, and there is nothing in Douglass' cul-de-sac where there was previously a distinct cystic ovary, with exudation surrounding it. The cysts of the ovary I can hardly believe are gone, but the exudation that was there certainly has disappeared. Although there is great tenderness there yet, the patient feels relieved. This is a case where the anesthetic effect does not come on until a week after the treatment, and it lasts for nearly two weeks. In most of the cases the relief comes on and lasts between two and three days, sometimes longer.

Dr. Boisliniere.—I desire to compliment Dr. Engelmann for the very thorough manner in which he has treated the subject. It is a very interesting question, and I think electricity in gynecology has an immense field before it. It is a new departure, as Dr. Moses says, and we are experimenting until we find certain means of producing certain results, and so long as we are merely experimenting with it, I do not think it would be wise to abandon our present methods of treatment altogether. Cases of antelexion, which are really the opprobrium of gynecology, are exceedingly difficult to manage; enlargement of the uterus is very difficult to cure, and so cases of subinvolution also are exceedingly difficult to cure unless we can remove the cause which leads to the condition. I think, however, there are other methods besides electricity that may be tried first, and electricity may be called in as an adjuvant with other methods of treatment. For instance, in antelexion I would first try to correct the condition of the uterus which causes the

bending of the neck, the stenosis. The old teaching was that there were few cases of intra-uterine disease that did not require local blood-letting, and I would strike at the root of the evil. There is congestion present, which we should attempt to relieve. These cases of ante flexion are often caused by congestion of the body of the uterus, and may be corrected by leeches applied every six or eight days, or free scarifications; and finally, if that does not succeed, we might try division of the neck of the womb. Frequently this will cure stenosis, because there is sometimes a great deal of bleeding at this time, and the hemorrhage relieves the stenosis and ante flexion. Now, if these methods should fail, or even if they should give partial relief, it is possible that electricity would give us a good result, and in conjunction with other methods of treatment electricity is, doubtless, a very valuable resource. I have seen complete relief of dysmenorrhea, which is the natural consequence of stenosis, follow a thorough incision of the neck at the vaginal junction and the internal os, so that I could pass a large sound easily into the uterus. I have often seen complete relief follow this treatment. As you know, one of the consequences of dysmenorrhea and stenosis is sterility, and although not every case operated upon in this manner has been followed by conception, perhaps in one-third of the cases which I have operated upon, conception has followed in persons who have been sterile for two, three, four or five years before, and every case of dysmenorrhea has been relieved, the ante flexion having been entirely corrected. I have also used, with great benefit, the Gehrung pessary, which is the pessary for anteversion *par excellence*. So that, while electricity is, no doubt, of great benefit, we should first try, or at least use in conjunction with it, these other methods of treatment to which we have all become more or less accustomed in these cases.

Dr. Maughs.—The subject of electricity is at present agitating the profession to no small extent; but from forty years' experience in the practice of medicine, and after wearing out several batteries, I am thoroughly convinced that the final result of the experiments which are now being made will be a great disappointment, for I must admit that all my experience with electricity has been a great disappointment to me.

Dr. Gehrung.—Dr. Engelmann's paper is a very valuable contribution to gynecological electro-therapeutics and is scientifically arranged so as to give us a guide as to how to apply electricity in

different cases and to secure the different effects of treatment. That electricity will do good in many of these cases by removing some of the pathological states which cause, accompany or sustain them, there can be no doubt. Flexions and versions may be relieved to a certain extent, and no doubt in some cases a cure will be effected by removing the causes; but there are many cases of flexion and version that will not be influenced at all by this remedy. This paper is also valuable by showing us the limit to which electricity may be applied beneficially or otherwise in gynecology, so that the cases not amenable to electricity may be recognized, and relieved by other remedies. Other remedies have come into prominence, which, like electricity, have at first been supposed to be cure-alls, and have departed in the same way as electricity will; that is, it will be applicable only to a special class of cases as a curative agent. Many remedies have had their time, like phlebotomy, calomel, chloral, carbolic acid, etc., only to be assigned a special limit. Electricity has been supposed by some to be of benefit in almost every pathological condition, whereas it is proven that this is not so: it is a valuable adjunct in the treatment of certain difficulties, and the sooner these are classified and the use of electricity limited to them, the better it will be for the profession and the public in general. When it comes to an absolute displacement I cannot see how electricity can replace a retroflexed womb; there is no power on earth except mechanical action that can move the womb up into its place, and I do not see how electricity can effect this. Electricity may lessen the tension or hardness of the womb, and in so far allow the flexion to be remedied, to the extent of its dependence thereon, with greater facility, but it will not, of its own accord, correct the flexion of a womb, as Dr. Glasgow has mentioned. I have sometimes met with cases where there was great difficulty in introducing anything into the uterus, but the second or third attempt has rendered it possible for me to do so. It rarely happens that it is impossible to introduce a probe into the uterus, unless there is complete stenosis of the os, which I have never yet met with except from traumatic causes; there is seldom found such a degree of stenosis at the internal os that the probe will not enter, and even a sound or catheter.

Dr. Engelmann.—I am very glad indeed to see the interest that has been taken in the subject, and I shall hardly attempt to answer what has been said, but I shall make a few remarks. For instance,

Dr. Maughs states that the agent remains the same. We have always had knives, but surgery has progressed immensely; and so it is with the use of the galvanic battery and faradism. I didn't enter upon a general discussion of the subject here, or present the reasons for using it, or its effects. That I have attempted to do in a paper which will soon be published, but I merely tried to state what I had achieved in treating flexions or other displacements.

As Dr. Moses remarked that he did not see that we were any further than Beard and Rockwell had left us, I will say that there is a vast difference; and I think if the gentlemen will only give time to it (and it is necessary to devote a good deal of time to it, because electricity is not one thing—it is a great variety of agents) that they will see where the progress has been made.

Dr. Moses.—I did not intend to say that we were not far advanced. I merely wished to convey the idea that the theory that electricity was a tonic stimulant had been advanced by Beard and Rockwell.

Dr. McPheeters.—Dr. Engelmann does not set up the claim that electricity is a special or exclusive mode of treatment, but only a valuable adjunct to other methods of treating uterine affections, and that the good results it produces are rather of an indirect character in causing the removal of morbid conditions of the uterus and its appendages, such as chronic inflammation, relaxation, and general want of tone of the parts, which give rise to displacements and other uterine diseases. Viewed in this light there can be no doubt that it is a valuable addition to the other remedies at our command in the treatment of female diseases, though the range of its application is not very extensive. Without claiming to be an electrician, and possessing no special skill in the application of the agent, I have for many years used electricity, especially in the treatment of neuralgias, amenorrhea and dysmenorrhea, and for the relief of excessive tenderness of the superficial nerves over the spinal column so common among females, and have derived good results therefrom. I have also made tentative efforts with it in other directions, but with only negative results. At present this whole subject is undergoing renewed and thorough investigation, and from the scientific methods which are now employed in its application, there is every reason to believe that the real value of electricity as a therapeutic agent, not only in uterine diseases, but in diseases generally, will soon be definitely established.

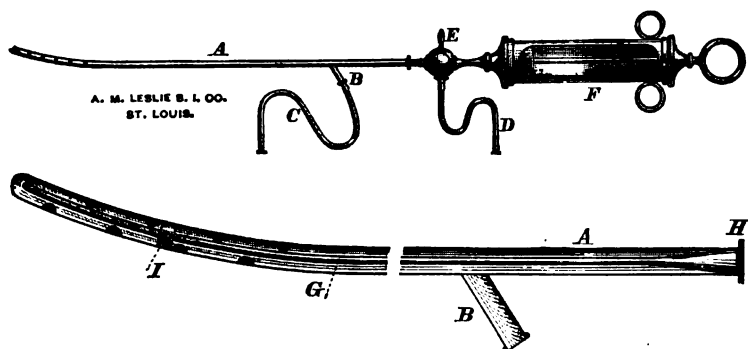
Dr. Engelmann.—It has been remarked that electricity has an anesthetic effect, I will say that used in one way it has the effect of a cautery, whereas when used in another way, it has an anesthetic effect, used in another, it is a stimulant and in still another it is a sedative, so that it depends upon the way in which it is used, the electrode which is used, the strength and the pole which is applied; and these things we can modify exactly as you can a dose of quinine. Of course, I do not claim that electricity will take the place of all other therapeutic agents; it must necessarily be limited to those purposes for which it is beneficial, and the difficulty has been to determine just how and in what cases it should be used. It is true that to a great extent we are as yet experimenting with electricity, but by the experiments already made, we have determined a great many points and we are satisfied, and know that in a great many cases electricity is of immense advantage, and definite knowledge as to when and how to apply them is the object of the experiments which are now being made so extensively, so it is rather to be used as a valuable assistant in many cases than as a remedy supplanting others. One of the great advantages of the use of electricity, is that it does not interfere with other forms of treatment, and we get the advantages of all we have heretofore been using, and in addition the very great advantages to be obtained by this agent.

Dr. Gregory.—I suppose there is no question but what electricity is a stimulant to parts to which it is applied; I suppose also that there can be no question that it is an irritant, that is, it can be made to act the part of an irritant. Now I do not suppose that it would be questioned, that those are the effects of all agents we employ, they are all either stimulants or irritants, and I do not see how any one can call in question the fact that electricity will be of advantage when we can produce stimulant and irritant effects with it. For nearly all the therapeutic agencies which we possess are either stimulants or irritants. Then too electricity is a stimulant in a very peculiar way, it is a diffuse stimulant an interstitial stimulant, which can be made to act upon the entire substance of the part to which it is applied. The entire organ can be influenced by this remedy, and certainly when we learn to control it thoroughly, it will be a very valuable therapeutic agent for a great variety of purposes.

ST. LOUIS MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, Nov. 20, Dr. Gregory in the chair.

Dr. Gehrung read a paper on Puerperal Fever, and exhibited instrument. Vid. p. 313.



Dr. Frank Glasgow thought the instrument which *Dr. Gehrung* had exhibited a very great improvement on all previous methods of washing out the womb. This instrument favors the cleansing of veins and lymphatics by its suction action, so that the septic material will be drawn out instead of being forced further into the circulation, as is done where the sinuses and lymphatics are filled with septic material and the water is forced in by the old method.

Dr. P. G. Robinson had nothing to say except in praise of the instrument and admiration of the ingenuity of *Dr. Gehrung*. It is necessary oftentimes to dilate the uterus and remove decomposing material with a scoop or some instrument of that kind. He recalled a case in Illinois, about a year ago, in which there was a great mass of decomposing material from a blighted ovum, hydatiform degeneration, which he was obliged to remove partly by his fingers and partly by an instrument and then washed out the cavity in the ordinary manner. The case resulted favorably. He saw a case of the same character two weeks ago in which a portion of the placenta was retained and no attempt had been made to remove the decomposing material from the uterine cavity. That case resulted well also simply by removing these particles of placenta and washing out the cavity. He said he had not had a case of sep-

ticemia in his own practice in very many years, all of those cases which he had seen having been in consultation.

Dr. Leete was greatly pleased with the instrument by reason of the ingenuity of its construction, and second, because it seems so very gentle and effective in its action. With regard to the removal of the more dense and tenacious substances, it may be possible to find an efficient and at the same time comparatively harmless solvent for these. Good results are reported to have been obtained by the peroxide of hydrogen in case of hard blood clots in the bladder, these clots being gradually and with considerable rapidity broken up, dissolved and removed. Possibly, some such solvent may be found which will dissolve the plastic matters that might plug the very small openings in this instrument, which would be safe to introduce into the uterus.

Dr. Homan expressed admiration for this instrument. While at the City Hospital, there were several rapid deaths in the lying-in wards from what he considered puerperal septicemia, which possibly with this instrument might have been saved. He asked as to the cause of this puerperal disease, whether it is a specific in its nature and the result of bacteria.

Dr. F. A. Glasgow said he could not answer that question, but he did not think the causes of puerperal fever the same in every case. What is called puerperal fever is sometimes little more than poisoning from the retention of septic material. Other cases are caused directly from contagion or atmospheric influences, and these seemed to him entirely distinct. They cannot be due to one and the same contagion.

Dr. Briggs asked whether this instrument might not be useful in cleansing the Eustachian tube.

Dr. Todd thought it might be used in the pharyngeal part of the Eustachian tube, provided the secretions are not very tenacious.

Dr. Homan asked *Dr. Gehrung* to explain a little more fully his method of introducing this tube and aspirating the Fallopian tube as suggested in his paper.

Dr. Gehrung said it could be introduced into the Fallopian tube where there is sufficient dilatation, and under certain circumstances—inflammatory processes—this occurs. He disliked to say anything as to introducing instruments into the Fallopian tube, because at the present time the profession is greatly in doubt whether anybody has ever done it. He didn't wish to be put on the list of

liars, and would prefer to await the settlement of the question. By carefully washing out the uterus with this instrument we prevent the absorption of septic material, and we will not have septicemia as long as we continue to wash away these secretions. So, if we prevent absorption of the septic material, we prevent septicemia, even though there are foreign bodies present. In the case which he reported it would have been a very painful operation at least to curette the uterus, as the tissues were extremely tender, and the patient was already too much in a typhoid condition to put her under chloroform.

DIPHTHERIA, OR NOT?

Dr. Todd said that an interesting case had occurred lately of a patient about six years of age who came to his clinic for what was thought by one good authority to be diphtheria. The tonsils were both covered with a grayish patch; there was what appeared to be something like sloughy matters hanging from the upper part of the pharynx, but the peculiar feature in the case was that the back of the pharynx was studded with grayish patches which were thought to be diphtheritic. He thought they were not diphtheritic sloughs but that there was a slight glazed mucous membrane over the patches, that there was nothing more than a pustular condition of the mucous membrane and in no true sense of the word a slough, but, in short, a very pronounced follicular pharyngitis, the follicles being excessively filled with secretion. For two weeks this child continued to go around all the time, and the throat finally cleared up entirely. Of course the progress of the case showed conclusively that it was simple follicular tonsillitis; but occurring as it did at the height of the epidemic and having these peculiarities, a hasty examination would have led many to pronounce it diphtheria, and he imagined that many cases have occurred which have been pronounced diphtheria with just as little claim to be called so.

Dr. Glasgow remarked that *Dr. Todd* had reported a case of which there had been a good many this fall, and which was something new to him. He had had a half dozen of these cases at least. In some of these cases the trouble has been referred to the tonsils, but in others not only the tonsils but the follicles of the pharynx are involved, cases of acute follicular pharyngitis. These cases are contagious, and they differ in this from ordinary cases of tonsillitis. He had seen one member of a family have it and

then the other children. He knew of two children who have taken it one from the other, the attacks coming on two days apart. These causes all have a like history. He believes the disease is distinctly constitutional; the attacks all commence with a chill or decided rigor, and this is followed by high fever, sometimes as high as 104° , but it is reduced very readily and lasts, as a rule, for two or three days. In some conditions we find the tonsils covered with exudative matter which seems to come from between the lacunæ which become filled with matter which is exuded on the surface. When you touch the parts, you have a bleeding surface. The exudation is very adherent. In one case he pulled off the exudation and found it a decided membrane in appearance, although made up of laminæ, and it left a raw surface underneath. In these cases we also have enlargement of the glands of the neck. Their course lasts for about three days. The history of the cases and the whole clinical aspect indicates them to be a constitutional affection. Up to this fall he had never seen anything of the kind, and had never heard of it. He saw a notice in a journal of a series of cases reported by Fraenkel, of Berlin, who calls them follicular tonsillitis. He mentions the fact that they are contagious, and the history that he gave of the cases was exactly similar to that which we have here. It is very easy to mistake these cases for diphtheria in some cases, but in others they are entirely different. He himself had seen some cases that he didn't think anybody would have hesitated to call mild cases of diphtheria and treat them accordingly. In all cases he had used one form of treatment, the benzoate of soda, with the use of gargles and washes; and they have all got well in from three to four days. All the cases were similar, and differed essentially from those which we have heretofore met of follicular tonsillitis.

Dr. Nelson read two or three paragraphs on this subject from a paper by Dr. Jacobi in the *New York Medical Record*, who is recognized as an able authority, taking the ground very strongly that these cases are true diphtheria. He said that he himself was satisfied that there are many of those cases in which it is simply impossible to say that one is diphtheria and the other follicular tonsillitis, and he doubts very much whether it is always possible, when there is only one child in a family, to assert positively that such a child has had one disease or the other. He thought that in a great many cases, as he had read from the paper of Dr. Jacobi, one

child in a family had unmistakable and unquestionable diphtheria and another had a case of what would be called under other circumstances follicular tonsillitis, and yet they are the same disease modified by the constitutional condition of the child.

Dr. Glasgow said that was all true, but in cases such as described by *Dr. Todd* and such as he had attempted to describe, there is acute inflammation of the pharynx, which during a diphtheritic epidemic may be called diphtheria, but in fact is nothing but acute follicular disease of the throat involving the follicles, and in these cases there is nothing like diphtheria. No paralysis had followed in any of the cases that he had seen.

Dr. Boisliniere, Jr., said that last Wednesday he was called to see a lady suffering from sore throat. She was in bed with fever. There was a white patch on the right tonsil that was distinctly follicular. In the pharynx there were no enlarged follicles containing white secretions to be seen. Under the use of benzoate of soda she was reported to-day to be well, though still very weak. But to-day she brought with her her little child, about 13 years of age, who also has follicular tonsillitis of the right tonsil only, the left tonsil is perfectly intact. The right tonsil is much swollen so that scarcely any healthy tissue can be seen between the points. In the pharynx were several follicles that contained a white secretion.

Dr. Robinson expressed the opinion that there is very often such a close resemblance between these two affections that we are sometimes obliged to hesitate before giving a positive diagnosis as to the nature of the case, and that the two diseases may go hand in hand in the same household. As illustrating this fact, he relates the following: A young lad about 13 years old was taken with what the doctor at once declared to be diphtheria on account of the character of the exudative patches upon the throat and constitutional symptoms which were well marked, although the temperature didn't go higher than 102° or 103°. He was confined to his bed for a week or ten days, and recovered very well. About a week after his recovery his father was taken with what was considered to be diphtheria also from the nature of the patches and the constitutional disturbance. He recovered. The mother was then taken with the same trouble, and she recovered. Some two weeks or more after that a little boy about five years of age complained of sore throat. To all appearances, this was simply fol-

licular, giving rise to no anxiety at the moment, but the doctor warned the parents that while it didn't then present any serious aspect or constitutional symptoms, nevertheless it might prove to be diphtheria and must be watched. For a week this child ran around the house with nothing more than what seemed to be simple follicular sore throat, with little or no constitutional disturbance, and at the end of a week a change took place in the appearance of his throat so that distinct patches were observed springing up on either side and developed into a most malignant type of diphtheria, and the child died from constitutional poisoning. Now the boy that was first taken and recovered so promptly two months afterwards was paralyzed—there was complete paraplegia so that he was unable to walk, and he had amaurosis also. These cases had made a deep impression upon him, and as had just been suggested by Dr. Nelson, he believed that the two diseases go hand in hand and seem to be very nearly related. A suspicion had been created in his mind that the two cases spring from one cause and are different expressions of the same affection, or that the follicular sore throat was simply a preparation, as it were, for the introduction of the specific germ of diphtheria into the system, so that any sore throat during the prevalence of diphtheria might be considered a dangerous condition. In his opinion we cannot rely for diagnosis upon the constitutional disturbance, because we see cases of diphtheria with disastrous results following, which present at first very slight constitutional disturbance, very little fever, malaise or debility. He recently had a case in the southern part of the city in which there was very little constitutional disturbance, very little fever, malaise or debility. The child couldn't be kept in bed at all, but was running around the house for a week, and after the throat cleared up and the patches were removed, there was little constitutional disturbance. But this week the doctor was summoned to see the child again, and found paraplegia so that he could not stand upon his legs at all, coming on two months after the attack of diphtheria. He could not blame a man for making a mistake in the differential diagnosis of follicular tonsillitis and diphtheria.

Dr. Tuholske has no doubt that follicular tonsillitis is a contagious trouble. In most cases the disease is ushered in with a rush; the patients are generally sick at once; they usually have no chill or fever, but there is sore throat and the disease starts as follicular tonsillitis, and under ordinary circumstances, when there is not an

epidemic of diphtheria present, the patient will probably recover very well, but in the presence of an epidemic influence it may spring into a diphtheria. There are patients who are specially troubled with throat affections and those who upon catching cold suffer from abscess of the tonsils. He didn't think there was any difference at all in those two classes of patients, the one gets follicular tonsillitis the other gets abscess. The same cause produces the inflammatory trouble in both cases. In his own family he himself was the one member who is rarely caught in that predicament, but once after an exposure he had an abscess of the throat; while other members of the family are very frequently attacked with these abscesses. His father, sisters and brothers, whenever they are exposed and get any throat trouble, are sure to have abscess, so that there is a distinct predisposition in some people and some families to this form of trouble. So he believes there is just such a predisposition to follicular tonsillitis. He believes also that follicular tonsillitis is primarily contagious under all circumstances, and decidedly so. Whenever there is an epidemic abroad such patients are most likely to start with follicular tonsillitis; but he does not think that follicular tonsillitis and true diphtheria start in just the same way. He would not consider it safe while there is an epidemic of diphtheria prevailing to consider such cases, whether with or without constitutional disturbance, as simple follicular tonsillitis, but should be suspicious of all of them. I don't believe that we are in a position to say on examination of the throat that this is follicular tonsillitis and this diphtheria.

Dr. Leete approved *Dr. Tuholske's* position. He believes that, under ordinary circumstances, the distinction is possible between true diphtheria and something that is not. Ordinarily, the sudden onset of follicular tonsillitis and pharyngitis, the more marked rigors and the swelling and soreness of the throat, indicate that we do not have to deal with diphtheria. But when we take into account that a child who has had measles having been exposed previously to scarlatina, has measles followed by scarlatina and that followed by small-pox; or in another case that a young man who had been effectively vaccinated by a very capable physician and within a year has scarlet fever and directly after that confluent small-pox, it is not difficult to understand that, by reason of the lowering of the system, notwithstanding the pain, high fever, swelling and threatened suffocation, a child or an adult that previously

would have resisted the poison of diphtheria, will succumb to it, or the one disease may be superimposed upon the other.

It is a very frequent observation that an outpouring of the contents of the follicles will give the appearance of a membrane, and if there is an attempt to remove this membrane by the application of a dry sponge or a dry cloth, it is very likely that this will be followed by bleeding of the surface. If attempted by gentle means, the apparent membrane could be brushed or washed off without causing the follicles to bleed. The mucous membrane is very easily abraded in the sound state, and much more so when the tonsils are inflamed and turgid. He regarded the cases reported by Dr. Robinson as of great interest, cases which though carefully scrutinized, do not impress the observer as being true diphtheria, but which after the lapse of a few weeks are followed by what does not follow simple tonsillitis.

Stated Meeting, December, 1886.

STRANGULATED HERNIA—REMOVAL OF OVARIES.

Dr. Carson said he took pleasure in being able to report favorable progress in the case from which he presented to the society the specimen at the last meeting. The progress had been rather remarkable. The highest temperature had been short of 100°. Five days after the operation the bowels moved spontaneously with as healthy and natural a stool as could be desired. The boy had really not had a bad symptom. The only trouble had been some slight colicky pains. He wished this evening to present the fimbriated extremities removed from a patient at the hospital. The right ovary was very much enlarged, as seen from the specimen. The outer ends of the Fallopian tubes were very much congested and also enlarged; they had diminished some since the removal of the specimen. He placed them in the air, and they were frozen, so that he could present them in as fresh and natural a condition as possible. The left ovary was slightly indurated, and there was a very slight enlargement, but the left tube was considerably enlarged. The point of interest is the little bodies presenting the appearance of calcareous degeneration at the ends of the fimbriæ: they are not larger than the point of the pin. The progress of the case so far is not favorable. The temperature is 102.7°. He presented this specimen not on account of

the novelty of the case, but on account of the novelty of the specimen itself. He had not been able in the limited time which he had to look up the subject and see whether there is a description of this condition. The patient was a young woman, 20 odd years of age, who came into the hospital some time ago, then complaining of difficult menstruation, hystero-epileptic attacks of frequent occurrence and constant pain over the ovarian region on the right side. Under treatment she seemed to improve somewhat; at least the hystero epileptic attacks became less frequent and severe. She became dissatisfied and left the hospital, when some weeks ago he received a letter from a physician asking about the case, and stating that she wished to enter the hospital again as a private patient. He wrote that if she would come and he found the condition such as to admit the removal of the ovaries, he would undertake the operation. Upon examination he found a very long narrow uterus nearly three inches in depth, very great pain upon pressure over both ovarian regions, especially the right, and so much so that it was impossible to make a satisfactory examination unless the patient was placed under the influence of an anesthetic. This he did, and was enabled to make out the right ovary very much enlarged. The left ovary he found but once and then but for a moment, but from the touch which he was able to get he concluded that the ovary on the left side was not enlarged. The ligament on that side was very much shortened, however, and the uterus had been drawn to the left. The position was otherwise good, although he believed the position at the time she left the hospital was one of retroversion. A subsequent examination with Dr. Moses enabled them to find the right ovary—it floated freely around in all directions and seemed to be attached by a very long pedicle so that they could push it up in the lower part of the abdomen as far as it would go and almost to the crest of the ileum on the right side. He stated the case plainly to the patient and advised against an operation. She, however, stated that she had been under the same treatment that we had applied and proposed to continue, and had not been benefited in the least, or that the benefit which she had derived had only been transient, and when she had reached here she went from bad to worse and insisted upon an operation. After a careful consideration of the case and getting the consent of other consultants, it was decided to open the abdomen and remove the ovaries. Upon opening the abdomen

he found the uterus very much elongated and presenting rather a peculiar condition. The body attached to the very long narrow neck was natural to the feel, while the neck was hard and in one place almost cartilaginous to the touch. This was just below the junction of the neck with the body of the womb. This was slightly fixed while the body itself was freely movable in all directions. Upon following the ligaments and reaching the ovary, he found, much to his surprise, that the pedicle of the ovary was not as long as he had expected, but rather short, and he was compelled to cut rather close to the body of the ovary itself upon the left side. The condition was just as we had made it before. The ligament was shortened and the section was made just below the body of the ovary. This peculiar condition of calcareous degeneration of the ends of the fimbriæ is very interesting. The tubes were very much congested and enlarged, especially the left.

Dr. F. A. Glasgow said this patient was under his care for a long time, and her convulsions were apparently epileptic. She would lie insensible for several hours, and they could not arouse her except by pressure over the abdomen, when she would answer questions very rationally. She never injured herself, always throwing herself on the bed and being held to the bed. These convulsions would occur generally about once a day, generally not more than that. He was of the opinion that she would not be improved unless she were put in an institution in which she could be rigidly controlled and they invited her people to take her away. In the letter which he sent, he recommended that they place her in some institution where she would be under complete control, and placed under such conditions he thought that she would recover in time. Subsequently, the doctor who was in attendance upon her at her home wrote, asking his opinion in regard to removing the ovaries. He wrote very emphatically that he would not recommend it, that he did not think it was a case for removing the ovaries. He did not hear anything more of the case until *Dr. Carson* told him that she was coming here to be operated upon. These convulsions did not seem to have any relation to the menstrual epoch. Otherwise, he would not have given such a positive opinion in regard to not removing the ovaries.

Dr. Carson said he was under the impression that this patient left the hospital voluntarily. However, it was only after a very careful consideration of the case both by himself and by others

that he consented to operate. He believes that the secret of success in some of these operations and the failure in others lies in the fact that the Fallopian tubes and their extremities are removed in some instances and not in others. Tait claims to have met with remarkable success, and he removed not only the ovaries, but all the appendages, or at least the tubes and ligaments, and in many of the cases which he reports there was a condition similar to that presented by this patient; and when the abdomen has been opened and the ovaries found very slightly diseased apparently, or a pathological condition is found in the ovaries, the tubes seem to have passed unnoticed, or at least nothing is said about them. He thinks this specimen is very interesting, because it shows these little bodies in the fimbriæ. The tube on the left side was very much congested and very much enlarged.

Dr. Bremer had had no personal experience in these matters. He knew that the operation for hystero epilepsy by castration has been uniformly successful at first. He remembered one case that occurred in Paris several years ago in which castration was resorted to as a *dernier ressort*; and the attacks stopped as by magic, but he read afterwards in a Parisian journal which he received that they had returned nine months after. The ovaries in that case were found to be almost normal. There was very slight cystic degeneration, otherwise they were in a perfectly healthy condition. These attacks could be produced by pressure on the ovary and then stopped by pressure upon the ovary, which is usually the case. He believes that the removal of the ovaries in these cases is justifiable, as castration in cases like this is sometimes successful, and if in any case it was justifiable, it was in this one. He had examined only one ovary that was removed for excessive and long continued pain in a woman 40 years of age. A physician in this city castrated her; and in these ovaries too there was only a very slight alteration, very slight swelling; they were enlarged to double the size of the normal ovary, but there was no inflammatory change whatsoever, yet the pain stopped immediately. He would try and make an exhaustive examination of the specimen presented to-night and report the result to the society.

Dr. Glasgow wished to make a remark in regard to one statement which *Dr. Bremer* made, that these nervous disturbances disappear almost immediately after the removal of the ovaries. The experience of some observers has contradicted that, and *Dr. Battey*,

of Georgia, is one of them. He has performed very many of these operations, and he says it does not disappear in all cases at once, that some patients require two years after the removal of the ovaries before the trouble ceases.

Dr. Hermann didn't know that he had any special experience in these cases, but opinions differ widely in regard to the advisability of this operation in cases of hystero epilepsy. In this case he thought the operation certainly justifiable, and especially as we see by the specimens that the ovaries and tubes were diseased. It is well known that hystero-epilepsy in these cases can be excited by pressure over the ovary, and that the ovaries are one of the prominent hystero-genetic regions of the body, pressure upon which will elicit symptoms of hystero-epilepsy. A number of cases have been reported recently, some of which discouraged the operation.

Dr. Bremer said he would like briefly to remark that the best results of the operation of removal of the ovaries have been obtained in cases of dysmenorrhea or excessively painful menstruation, but in cases of hystero-epilepsy which are the result of hereditary transmission, the results, as a rule, have not been successful; that is to say, a recurrence takes place after the lapse of three to six months or a year. Operations of this kind are analogous to those that are resorted to for the cure of true epilepsy. There is, as a rule, no matter what interference you may adopt for the cure of the attacks, a recurrence. As a rule, epilepsy comes back because it is in the constitution, because it is an instability of the central nervous system, not a peripheral irritation that brings about these attacks of epilepsy and also of hystero-epilepsy; and if one point of irritation is removed there usually arises sooner or later another point from which these attacks can be provoked.

HAY FEVER.

Dr. Mulhall mentioned, as an additional proof of the result of surgical operations for the relief of various reflex spasms, bearing out to a great extent the remarks of *Dr. Bremer*, that they prove curative only for a time, the treatment of hay fever, which pursues exactly the same course. He had made a report some time since of a number of cases of hay fever which were cured by the use of galvano-caustic. By this means the hypersensitive areas of the nose were quite cured; you could not make those people sneeze.

He tried it and failed; but the following summer the hay fever returned. He was quite satisfied that the galvano-caustic treatment as a means of stopping these reflex spasms of hay fever is going to fail. He certainly would not use it again. He was tempted to do so because using galvano-caustic so many hundreds of times success had been reported by other operators, and indeed, it seemed to him that he had effected a cure in his cases; but on the following summer the trouble re-appeared, proving that the cure was not permanent.

Stated Meeting November 30, 1886, Dr. Maughs in the chair.

FRACTURE OF SKULL.

Dr. Dalton.—A little boy some 10 or 12 years of age was brought to the hospital, having been kicked in the head by a mule and the bones depressed about three inches in length and about three-quarters of an inch in depth. The doctor chiseled off the upper portion in order to get a probe underneath the depressed bone, and got out a piece by the use of a little force. He then dressed the parts and the boy seemed to be doing very well for about two weeks; at the end of that time a hernia cerebri seemed to be developing. The tumor is now disappearing. It was very prominent, some inch and a half outside of the bone, but has now sloughed off almost even with the surface of the bone. The boy's mental condition is most excellent. He had a couple of spasms about two weeks ago, and since that time has had no mental aberration of any kind. During the compression he slept a great deal for days and days, and was only aroused to take medicine and food. The injury was in the right temple, extending upward about three inches, just below the orbit, and extending back over the parietal bone.

Dr. Tuholske had seen the little patient a few days after Dr. Dalton had performed the operation of raising and removing the depressed bone, and the little fellow was doing very well. There was no fever, and the wound was healing some. A week or so later the patient had some epileptiform seizures. At that time a part of the anterior lobe of the right hemisphere was bare—about the size of a quarter of a dollar—and presented through the opening in the skull. The edges were thick and inflamed, granulating and secreting pus. The brain tissue was covered to a certain extent by a membrane of a darkish color, and there was some

pus covering it. Thinking that the epileptiform seizure might be due to some temporary pressure, he passed his finger under the integument, and found a small piece of loose bone, and there seemed to be some tension about the membranes covering that lump. He incised that on its superior aspect, and then found that there was room enough to put may be something the thickness of three lines between the margin of the skull bone and that protruding mass. Since that time the patient has had no recurrence of brain disturbance. The part is apparently shrinking under a complete covering of iodoform, and is reduced in size until it does not now protrude much above the surface of the bone, and will probably reduce to the level of the bone. After its disappearance into the hole the skin margins can be drawn over it and cover it up. The case is a very interesting one, inasmuch as there is destruction of a portion of the brain, and no disturbance except what was due to depression. A little manipulation and pressure of the finger would produce considerable nervous excitement with great acceleration of the pulse and dilatation of both pupils. If the pressure was increased just the least bit the patient complained of intense pain about the eyes.

PELVIC CELLULITIS.

A second case that Dr. Dalton mentioned was that of a negro woman who had given birth to a number of children. She is quite a young woman, however, and has but lately gone through confinement or miscarriage just a few weeks ago. Now the question was as to the character of the swelling that was noticeable in the right iliac fossa, extending toward the median line and into the pelvis. Dr. T. examined the uterus and found it fixed; the os was very near the pubis, the vagina was firm and could not be readily pushed upward or to one side or the other, but it seemed to be a part of the fixed mass of the uterus.

The uterus was anteverted and crowded to the left side. The mass that he could feel seemed to surround the uterus to a great extent; at any rate the uterus could not be separated from it. The uterus seemed to make a part of it, but there was no increase in size of the uterus at all, so that he judged it to be simply in apposition and connected with it; he could make out no fluctuation. The swelling presented a good deal of firmness. He discarded the idea of having to deal with a special neoplasm, but thought probably it was some inflammatory trouble, taking it to be a pelvic cellulitis, thinking that in all probability, there would be found pus there, although

he did not think there was at that time enough softness about the parts to warrant even aspiration; he believed it was a case in which we should use large douches in the vagina and iodide applications externally and internally, hoping by this means to get some absorption. Dr. Dalton said he aspirated and got a good deal of fluid. From this it would look like there had been a hematocele or something of that character.

Dr. Dalton.—I will state that we passed the aspirator needle into the posterior portion of the cul-de-sac of Douglas in the posterior portion of the uterus, and got fluid out of the tumor so that it was very much lessened and we could scarcely feel it at all. I suppose we got out as much as 12 ounces of fluid; there was no pus.

Dr. Maughs.—This case of aspirating in the pelvis reminds me of a very interesting case in which I aspirated some time ago in a case in which I diagnosed a tubal pregnancy. Knowing the frightful dangers attending this condition, and as the patient was a very valuable lady, we concluded that it would be best to aspirate. We introduced the aspirator needle and drew off some half an ounce perhaps of amniotic fluid, and then reversed the aspirator and injected half a grain of morphine into the belly, and the patient became exceedingly ill, and was in a critical condition for some time, but she finally recovered and escaped the dangers of the tubal pregnancy. I understand that she has since become quite well and has become pregnant again.

OBSTRUCTION OF THE BOWEL.

Dr. Tuholske.—I will speak of some laparotomies that I have made during the last three or four weeks which I think present some very interesting features. One patient was a man 53 or 54 years of age, who had an inguinal hernia for 20 years. I was told that it had been a reducible hernia for which a truss had never been applied, or any kind of appliance. I was called to see this patient who was suffering from strangulation of the hernia. He had been under the care of a physician here in the city for, I think, a week preceding my seeing him, and he had been suffering with symptoms referable only to obstruction of the bowel; but since the hernia presented itself in the case it was suggested that this might likely be the cause of the obstruction—the attendant physician considered the hernia the cause of the obstruction in the case. I found the patient with a pulse of about 130, the temperature not much above the normal, very little tympanites about the belly, but there

was some, especially in the region about the umbilicus. He had been unable to pass fluids through his bowels at all times, and had been, until a day before I was called to see him, able to take food and retain it. He had a very great deal of pain in his belly, not amounting to acute suffering, but enough to give him a great deal of discomfort. The history that I got upon examining him was that he had been frequently subject to attacks of colic, to decided constipation, and had sometimes, after days of attempting to move his bowels with laxatives, only accomplished that result after a good deal of trouble with enemata. The questions that at once presented themselves were what kind of an obstruction there is? —is it acute or chronic? and what is the cause of the trouble? The fact of the previous history of pain in the abdomen, colic and constipation, the slowness of the development of this climax, such as I found it, with the absence of stercoraceous vomiting after days of trouble, the low temperature, all of the symptoms spoke against an acute obstruction. Hence we could readily eliminate the various causes of acute obstruction, such as twist in the gut, a bend or internal strangulation, and the usual causes of acute obstruction, and we had to look upon it as one of chronic obstruction, and then try to get at what was the cause of the chronic obstruction. The hernia seemed to play a very important part in the matter. It had, since he had been on his back, receded into the belly, but by placing the hand on the inguinal canal, you could readily find a round nodular body. The causes of chronic obstruction that we had to take into consideration were, first, the possible presence of a tumor, pressure of the bowel, impaction of feces, stricture, syphilitic, cancerous, or any other, and chronic peritoneal matting together of the bowels. I don't believe there are any other causes to be considered, and so far as we could judge, the stricture of the bowel was likely to occur in the lower bowel, since no tumor could be made out, since no impaction existed, and no history of syphilis, and no evidence of it was present; it was fairly proper to consider the trouble due to chronic peritoneal disease, and probably the matting together of the intestines. We waited a day or two to get a little more light, if possible, on the subject; we didn't get any, however. We thought the obstruction was becoming more complete, while he was able to pass flatus, which assisted us in making a diagnosis of chronic obstruction. While he was able to do that frequently, his vomiting became much more frequent, and finally be-

came offensive in smell, and showed that it was from the upper bowel. We thought that although there was no better diagnosis than that of chronic peritoneal adhesions—matting together of the intestines—that it would be well to cut open the abdomen, and see whether the hernia might not be reduced, or whether it might not have something to do with the obstruction. So we put the patient under an anesthetic, although he was quite feeble, and I thought he would not stand an operation well. His belly was rigid and I remarked that there was a peculiar hardness about the belly, not due so much to tympanites as to actual hardness of the parietes. However, we put him under the influence of an anesthetic, and cut down in the median line from below the umbilicus downward, cutting in the linea alba. In cutting down I found that there was a very hard mass, directly in connection with the linea alba and which somewhat prevented me separating it, so I thought I would go further in and cut through the substance, which cut like cartilage, and was certainly three lines in thickness. In fact, it cut open, just as if we were cutting through a thick ligament or cartilage. I put my finger past it into the internal abdominal ring, and felt first for the hernia. I felt that there was a piece of the bowel in the sac, and the sac reasonably filled the canal. Thinking that that might have something to do with the trouble, I pulled the gut out of the sac, and found some slight adhesion existing there which I broke up and pulled the gut out, getting the sac away from the canal; nowhere could I find any cause of the chronic obstruction. Well I found something that I had never seen in my life before. I found that the intestines in the proximity of the inguinal canal at the iliac fossa and all along were in a peculiar condition of rigidity, such as I have never found before; it felt like an unyielding tube, you could barely make an impression on it; it would creak under your fingers. The peritoneal wall was greatly thickened, and I came to the conclusion that the rigidity of a large section of the bowel was caused by this peculiar condition and interfering with the vermiform motion of the gut. I searched the canal for some other cause of obstruction and found nothing, but I felt quite satisfied that that was enough to explain the reason for the obstruction, so I sewed up the abdominal wound. The operation had no influence in accelerating or retarding the death of the patient. He lived a few days, had no reaction from the operation, but died of obstruction of the bowel. The vomiting became stercoraceous

and he died without much elevation of temperature. I mention this case because I had never seen such a condition, and I don't believe it is a very frequent one. There was first the condition of the parietal peritoneum presenting an unyielding hardness, then rigidity of the intestinal tube, not for one inch, but for a good many inches, perhaps a foot. The next case was also one of obstruction of the bowel, in which I made a laparotomy, and in which I am, unfortunately, not in possession of the specimen to-night. The patient was a woman 48 years of age, who had been treated for dysentery throughout the summer by a number of physicians. Shortly after my return, she was brought to my office to be treated for dysentery; she had a good deal of pain, and didn't seem to pass much fecal matter. Once in awhile, after great suffering and pain, she would pass some feces. I made an examination of the rectum and found a cancerous mass filling the rectum in its upper portion, the lower end being free and healthy. The tumor was then large enough to be felt from above the pelvis, and that was the reason I didn't propose a removal of the rectum, because I didn't think anything could be done after it had passed so far up. I so stated, and the patient left. A few weeks afterwards I was called to see the patient. She was suffering with absolute obstruction of the bowel; nothing would pass through, although she had eaten some each day almost up to the time that I saw her. She had commenced to vomit at that time, and had eaten nothing since, consequently she had become very feeble, and looked almost like a corpse. This time I placed her in the hospital, and concluded to relieve her, if I could by opening the bowels and making an artificial anus. The operation for removal of the rectum was of course out of the question. I had been thinking of making an artificial anus in a different manner from those which are usually employed, and which I consider a much easier way. I had tried it on the cadaver, and the idea struck me that it was something very original, until my assistant, Dr. Dixon told me that a similar operation had been suggested in complete obstruction of the rectum from cancer. This method is by making a colotomy in the lumbar region, making an iliac colotomy, that is, pulling the gut forward, cutting it and taking the upper end of the tube, and sewing it into the opening with the lower end turned in. I thought this quite a good case to try this operation upon, and I selected iliac enterotomy because, while I differ from a great many, I believe it to be a better operation. I

cut, maybe two inches above the anterior superior spinous process of the ilium, and making an incision about four inches in length, parallel with Poupart's ligament, making a large opening superficially, then cutting down upon the peritoneum. The bleeding was not great, and was easily controlled. After making this opening there is no difficulty about cutting the piece of bowel. There is a difficulty in the operation, and that is to determine which is the upper and which is the lower end of the gut and that is a very important matter. After determining which is the upper and which is the lower end we cleaned the parts and closed it, as in the ordinary laparotomy, uniting the lower end by sutures. I used eighty odd sutures in making the operation. There is one point that I forgot to mention in this iliac enterotomy, and that is, as the patient is on her back, you can administer the anesthetic with great ease, while if the patient is suffering from obstruction of the diaphragm, and the patient is placed upon her face, there is some danger. In this case the operation was done too late, and there was no relief; there was no peritonitis. In this case we did make a post-mortem, and we found that the woman died without peritonitis. The transverse and ascending colon and the cecum were filled with fecal matter; here and there were found some hard scybalous masses, the small intestines containing only fluid matter. I believe this operation to be the very best for the relief of obstruction, whether from cancer of the rectum or other condition. I believe it to be the better operation in those cases of obstruction where a permanent artificial anus is to be made. Since Dr. Maughs is present, I will mention another case of laparotomy which will interest him, because it is in a patient from whom two ovarian tumors were removed three or four years ago. The doctor will remember the woman who came from Springfield, and who had tumors which looked as if they were malignant. The woman, however, made a very perfect recovery, and remained in good health for years. Saturday a week ago this woman was brought to the hospital here, and I went out and found a tumor, about the size of a lemon, located in the cicatrix below the umbilicus. It was of a bluish red color apparently very freely movable. I don't know whether it reached to the peritoneum or not, but I made a diagnosis that it was a sarcoma. There was just above it a very hard nodule. We put the patient under the influence of an anesthetic, and I started to remove it. It seemed as if the tumor was very freely movable in the tissues, but

I thought it might possibly dip down to the peritoneum. I cut down upon it, and found that it did dip down to the peritoneum, and about two-thirds of its circumference was very firmly held to the peritoneum, and I found that that would have to come with it, so I incised the peritoneum on that side on which it had not been attached, and got my finger under it, and then I found that it was not only attached to the peritoneum, but by some perversity, it had become attached to a piece of the bowel—a loop of the intestine had become adherent to the peritoneum at that point, and hence the tumor was connected with the peritoneum and reached down to that loop of bowel. Well, I was very uncomfortable about it, because I didn't see exactly how I was to go on. I thought possibly it was simply an agglutination and that I might probably pull it off, but I found that this was impossible. However, I removed it as well as I could, and in doing so, I undoubtedly got out a greater portion of it so that there is very little of it left; I cut off as much as I possibly could. I think, however, that the peritoneum was involved, and I may have left a small portion of the tumor there, but I removed it as nearly as possible. Things didn't look very promising. I cleaned out the cavity as well as I could, and closed up the wound, and the patient looks as if she was going to rally from the operation. She didn't have any fever, nor any peritonitis. It is now twelve days ago, and she is apparently well, so far as the operation goes. The removal of the tumor was, of course, not entirely a success, and it is probable that, sooner later, the trouble will spring up again, and that the patient will, in the course of time, die of sarcoma, but she didn't die of the laparotomy, nor the manipulations which were necessary to go through in the operation.

PROFESSOR CARL SCHROEDER, one of the best known of Berlin Gynecologists; Professor T. GALLARD, a Parisian gynecologist, and M. RAIGE-DELOREME, one of the most eminent Parisian physicians, all three died within a few days near the last of January.

THE MEDICAL REGISTER is the title of a weekly medical journal published in Philadelphia under the editorship of Drs. Jno. V. Shoemaker and Wm. C. Wile, both of whom are experienced journalists, having hitherto conducted respectively the *Medical Bulletin* and the *New England Medical Monthly*. Under such able direction the *Register* will doubtless soon win a prominent position among the medical journals.

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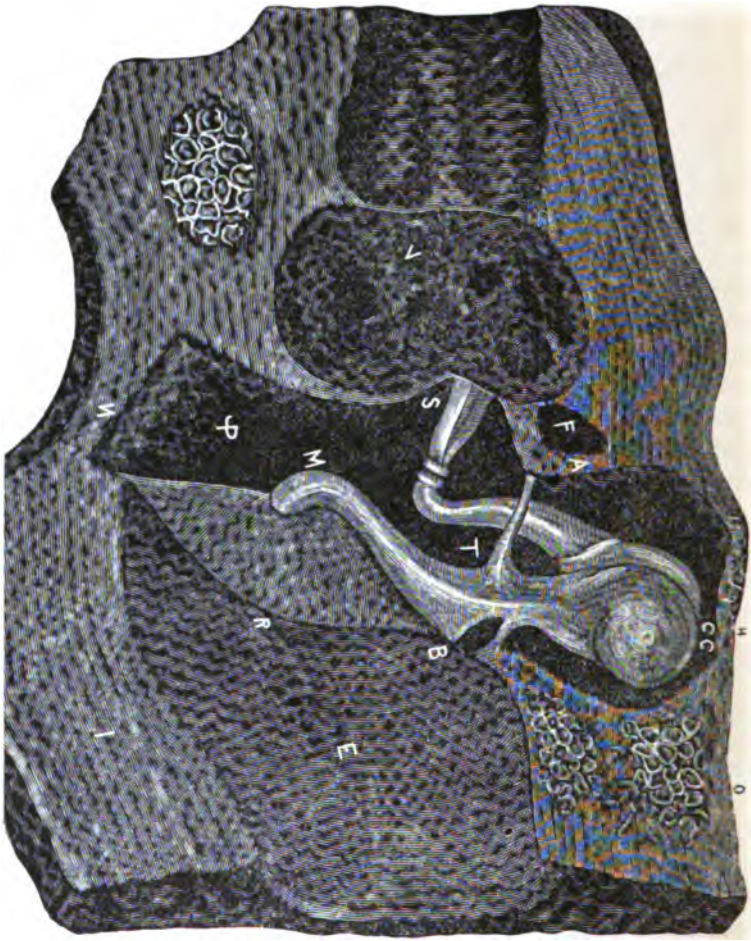
CHRONIC PURULENT INFLAMMATION OF THE TYMPANIC ATTIC.

BY H. N. SPENCER, A. M., M. D., *Professor of Diseases of the Ear in the St. Louis Post-Graduate School of Medicine, Polyclinic and Hospital.*

[Read before the St. Louis Medico-Chirurgical Society, June 29, 1886].

A NUMBER of cases of purulent inflammation of the tympanic attic that are under my care at the present time have suggested the writing of this paper, as they have afforded an additional opportunity for the study of this interesting and usually intractable form of middle ear disease. This disease does not yield so readily to treatment for the reason that it is inaccessible to the ordinary methods of cleansing and medication that are employed in the treatment of exposed ulceration of the *atrium*.

The *attic* may be defined to be that portion of the cavity of the tympanum situated above a horizontal line drawn inwardly tangent to the upper free edge of the tympanic plate. The *atrium*, situated below, has the entire *membrana vibrans* constituting in large part its outer wall. An interesting résumé of the anatomy of the portion of the ear under consideration is to be found in a contribution to the Proceedings of the American



REPRESENTATION OF THE RIGHT EAR, IN SECTION, AFTER
POLITZER.

- E. Meatus auditorius externus.
- R. Membrana tympani.
- C. Caput mallei.
- B. Processus brevis mallei.
- M. Manubrium mallei.

Otological Society for 1886, entitled "Inflammation of the Middle Ear Tract," by Dr. Sexton. I quote from it as follows: "The canal for the facial nerve lies like a ridge along the whole breadth of the inner wall of the tympanum just above the promontory; this, and the margin of the auditory plate opposite limits the passage between the *atrium tympanicum* and the *atticus tympanicus*. The boundary is further restricted by foldings of the mucous lining of the tympanum in adapting itself to the chorda tympani. In the normal state drainage from the attic is afforded by the debouchure of the Eustachian tube anteriorly and by the hiatus behind the descending ramus of the incus, but the space between where the handle of the malleus and long process of the incus descend is almost impracticable for drainage."

With this introduction I may proceed at once to my subject. I first wish, however, to disclaim all intention of anything like an exhaustive consideration of the disease that the paper presents, and it is still further from my purpose to occupy your time with a philosophical dissertation upon dangers and sequels that might reasonably be looked for to ensue, but that do not occur in point of fact. I design to state in as simple a way as possible my own experience and observations whether they accord with those of others or not.

GENERAL REMARKS.

The acute inflammations of the attic are characterized by more intense pain than usually accompanies an ordinary suppurative tympanitis.

The reflex and constitutional disturbances are also of a much more aggravated character. They are hardly distinguishable indeed from those subjective symptoms that attend acute mastoid cell disease. The anatomical relations and peculiarities of the attic space afford a ready explanation of this.

The appearance upon objective examination is a localized intense redness and tumefaction at the juncture of the upper meatus wall with the *membrana flaccida*. A free incision with constitutional antiphlogosis meets the early indication. A

judicious after treatment locally and with tonics insures a good result ordinarily in from one to six weeks.

The chronic cases are not so easily disposed of.

Chronic purulent inflammation of the attic may be limited to this cavity or be associated with a similar process in the atrium. It may have had its origin in the attic or have resulted from extension of inflammation.

I may state at this point, as well as at any other that my earlier expectations have not been realized with regard to the extension of inflammation to the mastoid cells. I have not observed a tendency to this complication to be any more frequent in association with inflammations of the attic than with those of the atrium, or no more frequent where the attic has been invaded than where the chronic purulent process affects the atrium alone. The location of the mastoid antrum in relation to the attic, its floor very nearly on a line with the upper meatus wall, taken together with the results of post-mortem examinations showing pathological changes in the cells and reports of cases led me to look for this trouble as likely to be of frequent occurrence. The very small number of cases that I have observed in eighteen years of practice necessitating opening the mastoid has therefore been an agreeable disappointment to me.

We have not infrequently in the course of a purulent inflammation of the middle ear, especially in its exacerbations, indications of mastoid cell disturbance. Sometimes there is considerable pain with tenderness upon pressure behind the ear and external redness and swelling. These symptoms may be present even to quite an alarming extent, and will disappear with no special attention being directed to them beyond a continuance of care for the middle ear trouble except as I am in the habit of prescribing a few grains of calomel under these circumstances in combination with quinine. I have known repeated recurrences all finally yielding to improvement in the general health and the bettered condition of the tympanum.

As I have made this reference to mastoid cell complication growing out of purulent inflammation of the middle ear, I may be pardoned for this further observation in general; either diseases of the mastoid are of less frequent occurrence in the West

than in the East and less in this country than abroad, or perforation of the mastoid process is often unnecessarily performed and an overweening desire to add to a number of operations magnifies the subjective and objective indications for surgical interference, and prejudices the otherwise good judgment of the operator. I make this statement with some hesitation but from a conviction of the truthfulness of it so far as *my experience* has gone, founded upon upwards of twenty-five thousand cases of ear disease seen in private and hospital practice. If I do injustice to any one in the latter, I must be warranted in the former conclusion that diseases of the mastoid do not occur so commonly here as elsewhere.

The redness and swelling over the mastoid and the external periostitis has been ascribed to an extension of inflammation from the mastoid cells through the minute foramina of the bone, the anterior wall of the cells constituting the posterior wall of the external auditory canal. This undoubtedly may and does occur, as I have observed in several instances; but I think much more frequently arises by extension *ex continuo* along the upper and posterior meatus wall from the tympanic periostitis. This extension from inflammation of the attic is facilitated by the deficiency in the tympanic ring at its postero-superior periphery. And the connecting line of redness is easily discernible. Though very pertinent to the subject it would not be in keeping exactly with my purpose or promise to pursue further the complications of purulent inflammation of the attic. These might be a subject for another paper.

I shall invite your attention very briefly to some of the pathological peculiarities that are to be observed, and will then outline the treatment that I have found to be the most efficacious; and will finally submit illustrative cases.

PATHOLOGY.

There may be said to be two forms of purulent inflammation of the attic, one of which is characterized by swelling and a tendency to proliferation and organization of tissue and the other by a thinning of tissue, or tissue waste, (in which the newly developed inflammatory products stop short of organization and

are cast off with the purulent discharge). It is readily understood that both of these forms of disease are intensified and rendered more serious by reason of the extended and complicated surface that the attic presents, a surface not more extended and complex than it is functionally important, as it is constituted in part by the head of the hammer and the malleo-incudal articulation. The attic also contains the body of the incus, the long process of which only extends into the atrium. The opening through which drainage outwardly takes place is in Shrapnell's membrane above the folds of the membrana tympani. This opening has been effected of course in consequence of the inflammatory action, and is much more commonly in the posterior sector. Openings will be observed sometimes, however, in both posterior and anterior sectors.

I have observed in three cases that I recall communicating sinuses with the attic situated over the short process of the malleus.

Occasionally and especially in ancient troubles the membrana vibrans will be found to have been swept away in whole or in part, it may be with but the stump of the manubrium remaining, the point having been eroded by the destructive process that has continued so long.

In all of these conditions of perforation or destruction of the drum-head, when the first mentioned form of inflammation (hyperplastic) obtains, the edges of the openings and the cavity surfaces, so far as they appear, are swollen and red. Not infrequently there will be villous projections, papillary growths and even large polypi. When the second form of tissue waste prevails, the edges of the opening are thin and white, and the tissues beyond are characterized by the same appearance. The discharge is often scanty, sometimes not apparent until exploration of the attic has been made. It is apt to be then dark brown in color. It may even inspissate into a black mass assuming the shape and mould of the cavity so far as it is occupied by it, a slow process of waste still going on underneath. This second form is the more intractable of the two, and is more likely to result in caries of the bone. The head of the hammer first, and next in point of frequency the head of the incus is liable to become affected by carious action.

TREATMENT.

It goes without saying, if we would treat the purulent inflammations of the attic successfully, that it is necessary to avoid conventional methods that do not take into account accurately the nature and location of the lesion. I may illustrate my meaning and the force of this statement with presenting two cases that have come under my notice within the last year. One, a young lady from the northern portion of this state, presented a polypus of the ear that protruded through an opening in Shrapnell's membrane. She had been under a course of treatment for several weeks that consisted in cleansing and the daily application of nitrate of silver to the presenting surface of the growth, with no other result than to stimulate its further development in size. The other case was that of a lady in middle life, also from Missouri, who was operated upon by the snare for the removal of a large growth that had its attachment within the attic. The subsequent treatment for destruction of the polypus was with the galvano-cautery applied to that portion of the growth still remaining in view at the fundus of the canal. It is evident that extirpation of the neoplasm, the product of an inflammation in the supra-tympanic cavity, could never have been effected by this means. If the treatment in this case had only resulted negatively, it had been less unfortunate, but in the introduction of the needles, sufficient care was not taken and a caries of the inner bony wall of the cavity remained for some time after the trouble for which it was inflicted had been entirely removed.

It is my practice in those cases of suppuration of the attic that present polypi or polypoid masses to operate for their removal at once, and to curette the mass or masses as high up as it is possible to do so. I employ an anesthetic, or not, as seems to be required. Immediately after the operation I apply a saturated solution of nitrate of silver, which being taken up on a tightly twisted bit of cotton projecting one-sixteenth of an inch beyond the point of the holder, and bent at a right angle with the shank is passed over the margin of the plate and carried well up into the cavity. I have not found it necessary to neutralize this, only drying the parts with absorbent cotton in order to re-

move any excess of the fluid. The pain that follows this application is not at all extreme: it may continue for two or three hours. I think this method is much safer and attended with less disturbance than the application of this agent would be by injection through the tympanic syringe. Following the operation and the cautery, not waiting even for the slough to come away, I employ absolute alcohol, or a saturated solution of boracic acid in absolute alcohol, by instillation.

In all this of course cleansing the ear is premised, and I shall have occasion under another heading to express my views in regard to the means that may be best employed for this purpose. It is unnecessary to state that in this class of cases that we have just been considering the discharge is usually quite abundant.

In the second class of suppurations that have been referred to the therapeutical requirements are different. In the former we would control a hyperplasia. Here we are called upon to stimulate an aplastic condition into one more favorable to health. I have employed peroxide of hydrogen for the past two or three years under the impression that it has a slight stimulant effect and is a disinfectant. Ringer says: "Added to pus much gas is given off, and the mixture becomes turbid with white flocculi, and many of the corpuscles are shrunk or altogether destroyed." This remedy is sufficiently well known that I need not refer to its chemical composition. Its affinity for albumen constitutes it, in addition to the effects stated, a valuable agent in the treatment of pus surfaces that are left covered with a thin coagulum after it has been employed. As has been recommended by others, the application of it should be repeated until effervescence ceases. I think more benefit would be derived from its use than is obtained, if the application could be made two or three times a day, instead of once in two or three days, as is the common office practice. Dr. Chas. H. Burne¹ recommends a 5 per cent solution of carbolic acid to be employed after the cavity has been cleansed with peroxide of hydrogen. This latter

1. "Two Cases of Chronic Purulent Inflammation of the Tympanic Attic, Treated by Peroxide of Hydrogen." Transactions of the American Otological Society, 1886.

he uses in the full strength of its manufacture (10 per cent), as has also been my practice.

Nitrate of silver judiciously used I regard as one of the most valuable agents at our command, and in selected cases, at a well chosen period in the course of the disease, strong solutions of it may be employed to great advantage. As a rule, however, any stimulation should be mild in character.

In regard to cleansing the ear I wish to state that I do not wash out the cavity so frequently as some appear to do, and am satisfied that the too frequent use of the bath exercises a prejudicial influence upon any tendency in the tissue toward healthy action. It may be necessary occasionally to employ the tympanic syringe, but where the ear is seen every day, as is much to be desired in these cases, the intervals between its use may be constantly extended. My views have undergone some change in regard to the use of the syringe in the treatment of purulent inflammations of the middle ear. I recognize that its employment is indispensable at times, but I am equally positive that it is susceptible of being converted into a means of doing much evil, and often its use delays or defeats the object aimed at. The sooner the syringe is placed in the same category with the paracentesis needle, the sharp curette and Wolfe's spoon, to be employed when a real indication exists, the better for otology and humanity. An argument opposed to dry cleansing has been advanced with all gravity to the effect that it requires an expert eye and a skilled hand. It should be added in like seriousness that the use of the tympanic syringe demands an equal degree of, or greater cleverness in manipulation. Small bits of absorbent cotton, bent at a proper angle to the shank of the holder, may be passed up and the recesses mopped out in this way: that, together with the effect of the peroxide of hydrogen upon the pus cells will often prove sufficient. It is a matter of great importance that the form of cotton holder employed should be suited to the use here made of it. Those ordinarily found in the shops would be wholly unfit. The entire instrument must be of steel, that is inflexible, and the shank very slender, that the point will not admit of being notched. The little knack that is necessary for at-

taching the cotton to a smooth point is soon acquired. The point, however, may be sufficiently roughened, if this is desirable, by exposing it to an acid.

The cases that I have selected out of a large number have not been chosen with any reference to results of treatment, but more to illustrate the variety in form of purulent inflammation of the attic. They will also serve to indicate how different the prognosis is likely to be as between the two forms.

CASES.

M. H., æt. 17, came under my care Oct. 3, 1884, for a discharge from both ears that had existed since an attack of scarlet fever in early childhood. Health otherwise good. On examination the drum head of the right side was found to have been entirely destroyed. The present discharge, however, came from the attic of the tympanum. The lower portion of the cavity was cicatrized. The discharge from the attic was not profuse; was dark in color and was of a very offensive odor. The posterior opening through the *membrana flaccida* was unusually wide from absorption of tissue with free edges inclined to be pale and thin. The appearance on the left side did not differ materially, except that the drum-head had not been so entirely swept away. I need not follow step by step the treatment that has been pursued in this case for now nearly two years and a half. Daily visits have been made to the office, with slight interruption during the summer months and now and then a holiday as a reward of merit. Peroxide of hydrogen was employed at the outset, and with occasionally resting the parts by the substitution of another application, it has been persisted in. Nitrate of silver has been used a number of times, and boracic acid has had its turn. The left ear was healed twelve months or more ago, and has remained well to the present time.

The right continues to discharge but is greatly better, and the hearing on both sides is much improved.

Miss L. G., æt. 27, presented herself May 24, 1886. Several months previous to the time of her first appearance at the office, after four days of the most intense suffering, the right ear commenced discharging. The pain diminished very much after the "ear broke," but was not entirely relieved and several exacerbations had so unnerved her that she lost strength and flesh. She derived

no benefit from treatment that had been applied and the appearance of blood in the discharge from the ear led her to seek other advice. I found the inner end of the external auditory canal very red, especially the upper and posterior wall with considerable swelling.

A fleshy looking mass protruded through and filled an opening in the *membrana flaccida*. There was no perforation in the membrane below the fold, so far as could be made out. The patient was in a very irritable condition from protracted suffering that had induced loss of sleep and loss of appetite.

She complained of having experienced vertigo and at times very severe pain behind the ear. There was considerable redness over the mastoid, when the first examination was made with some swelling and tenderness upon pressure. I directed a constitutional and local treatment to the relief first of these disturbing symptoms. Subsequently the growth was removed with the curette, and that after-care instituted that has been detailed under the head of treatment for this form of inflammation of the attic characterized by proliferation and organization of tissue. The patient made a good recovery, and was discharged on June 30, following.

KNEE JOINT RESECTIONS WITH REPORT OF TWO CASES.

BY E. S. GARNER, M. D., ST. JOSEPH, MO., late House Surgeon of the
Presbyterian Hospital, New York.

[Read before the Grand River Medical Society.]

IN pre-antiseptic days excision of the knee-joint was considered a very grave and questionable operation, and even now many of the older school of surgeons doubt its propriety in a great number of instances where it is performed. The weight of authority, however, goes to prove that it is a brilliant triumph of modern surgery and as a conservative procedure ranks very high.

I must confess to considerable surprise when, on looking up the literature of the subject, I found a diversity of opinions existing as to its mortality rate. Thus Hamilton takes a very

gloomy view as to its results, saying (Principles and Practice of Surgery, ed. 1886) that as the result of his observations fully 50 per cent. of the patients have died or have eventually demanded amputation. His experience has been very different from that of all other authorities which have come to my notice, and would suggest that it is drawn from cases operated upon before the advent of modern methods of wound treatment. On the other hand Van Bruns of Tübingen (quoted by *American Journal of the Medical Sciences*) reported twenty-one consecutive successful cases, with primary union in all, except one which healed by rapid granulation.

Almost as good are the results obtained in the Leeds General Infirmary (reported by McGill, *London Lancet*) where since 1881 there have been sixty-three cases, with only three deaths, a mortality of three per cent. One of these deaths occurred where the patient was the subject of advanced phthisis; evidently a case upon which the operator did not use very good judgment.

My own observation is limited to about twelve cases, all of whom recovered.

Unfortunately a large amount of current literature is not at hand, yet I am confident that the results of our American operators would go to support me in the statement that the death rate of this operation is not nearly so large as is represented by Prof. Hamilton.

In my opinion statistics collected prior to the introduction of antiseptic methods of treatment should not be considered in making up our estimate of the merits of this operation; for any one who has followed closely the history of this branch of surgery during the past five years, and more particularly the last two years, will acknowledge that the two eras cannot be compared.

It is my impression that as experience teaches how to select the suitable from the unsuitable operative cases, the death rate will become an exceedingly low one, probably not higher than that following amputation above the joint.

To Dr. Chas. K. Briddon in whose service the following cases were treated, I am indebted for permission to publish them.

CASE I. Patrick M., æt. 30, was admitted to the hospital

December 1, 1884. For six years the patient's knee had been the seat of chronic articular osteitis, and during the eighteen months previous to admission the limb had been entirely disabled. There were present all the external evidences of advanced joint changes, undue enlargement, atrophy of the limb, a doughy semi-elastic feel, together with an abnormal degree of mobility. There was no impairment of his general health, a careful inquiry and examination failing to bring out any bad history or abnormality.

Conservative treatment had for a long time been intelligently carried out with negative results until at last the patient was anxious for the adoption of more radical measures. Excision of the joint was determined upon and carried into execution by Dr. Briddon, assisted by the writer and other members of the house staff.

Due regard for antisepsis in all its details was observed. All instruments were kept submerged in a carbolyzed solution; the ligatures, which were of catgut, were prepared after the method of Kocher; the field of operation was isolated with towels wrung out in a warm bichloride solution, and finally it was ordered that no one be allowed to touch the wound unless the precaution had been taken of purifying the hands in a sublimated solution, kept for that purpose.

The ordinary infra-patellar incision was made extending from the tip of one condyle to the other, the first sweep of the knife dividing all the tissues down to the joint structure. The remains of the ligaments were severed and the articulation thrown entirely open by putting the leg in a position of extreme flexion.

The pathological changes in the joint were far advanced; the synovial membranes in a condition of pulpy degeneration, the articular cartilages entirely gone and the heads of the bones filled with small abscesses varying from the size of a pea to that of a walnut. After cutting away the patella the ends of the bones were removed with a Butcher's saw. About one and one-half inches of femur was taken off before healthy bone structure was reached.

The capsule was now with much care dissected away in its entirety—a procedure which was attended with considerable

hemorrhage, requiring the ligation of many additional vessels. After this was accomplished, it was noticed that all of the diseased structure had been thoroughly eradicated, and that the wound was in a condition for rapid repair.

Wiring of the bones was not done because it was thought that a properly adjusted immovable dressing would answer the purpose, and in this way all those troublesome symptoms which sometimes follow the introduction of wires would be obviated.

Irrigation was frequently practised during the operation.

In closing the wound use was made of a deeply inserted continuous catgut suture, and drainage was provided for by leaving a moderate sized Neuber's tube in either angle of the cut surface. A liberal quantity of iodoform was sprinkled along the line of suture, and over this were placed a number of layers of 50 per cent iodoform gauze, which were held in position by a snugly fitting roller of aseptic gauze.

The limb being held in accurate position, several layers of plaster bandage were carried from the toe to the lower border of the dressings, and beginning at the upper border the same number of layers were carried to the perineum.

These were allowed to dry, after which three bracketed splints of sufficiently heavy iron strips were adjusted after the manner practised by Volkmann, of Halle, in his treatment of compound fractures of the lower extremities. Several more layers of plaster held these strips in position. The operation was completed by securing the limb on a well padded inclined plane.

The progress of the patient was uninterrupted, no fever, pain or constitutional disturbance of any kind supervening.

The original dressing was removed at the end of five weeks when primary union was found to have taken place throughout the entire extent of the wound. The dressings were only soiled by the oozing which followed immediately upon the operation. The limb was one week later encased in an ordinary plaster splint which was retained eight weeks. Bony union was not so prompt as expected, still at the end of five months the callus was sufficiently firm to admit the use of the limb. The final result was an excellent one, the patient at the time of his discharge being able to walk with a not very noticeable limp, and to resume his occupation.

CASE Charles L., æt. 35, admitted in February, 1885. The patient, after having at different times sustained a fracture of both patellæ, ruptured the ligamentous band of union existing between the fragments of the left one, the upper fragment in this instance protruding through the skin. He was treated at his home by a physician who it seems paid little attention to cleanliness or position, and as a result a high fever with all the concomitants of a suppurative joint trouble commenced. He was admitted to the hospital three weeks after the receipt of the injury. At that time he was having irregular fever, profuse sweating, a dry brown tongue, and was progressively deteriorating.

The limb was enormously swollen. In addition to both extra- and intra-articular abscesses there was an intense degree of local inflammation.

As soon as practicable the confined pus was liberated, and the tension relieved by free incisions, and the limb, snugly bandaged from toe to perineum, was secured upon an inclined plane. This treatment followed by daily antiseptic irrigation produced a decided amelioration both local and general, of the patient's symptoms; still it was noticed that the temperature would occasionally arise despite everything, and that the general condition was growing progressively worse. The question as to what operative procedure should be adopted was fully discussed, and it was finally decided that resection should be at least attempted, although the prospect of carrying the operation to a successful termination was not very flattering.

Dr. Briddon was in this instance also the operator. The same antiseptic precautions were observed.

The joint was entered by a transverse incision. Its disorganized structure was scraped with the sharp spoon, and in this way a large quantity of lowly organized granulation tissue was removed. A pus pouch extending from the joint about six inches along the inner side of the thigh was slit up and its walls carefully scraped. Two smaller abscess cavities, one involving the popliteal space, the other on the front of the leg, were treated in the same way.

After this was accomplished, thin slices of bone were removed from the ends of tibia and femur.

Upon removing the Esmarch a very lively hemorrhage commenced, and on account of the friability of the tissues, tying of the vessels was impracticable.

Finally, after various methods of restraining hemorrhage had been resorted to, the flow was checked by a douche of very hot water and prolonged elevation of the limb; this complication was a very serious one, proving nearly fatal to the success of the operation.

The wound was now thoroughly irrigated and the cut edges of the abscess cavities brought together with running catgut sutures. There was so much loss of tissue on the anterior aspect of the joint that the flaps could not be approximated, consequently there was a surface about one by two inches left to heal by granulation.

For the purpose of holding the bones in apposition the following method was resorted to: long, slender and well polished nails, four in all, were driven into the bones, above and below, on either side. The ends of the bones being crowded together, several loops of copper wire were carried from one nail to the other in figure-of-eight fashion. These nails, previously well sharpened did not shatter the compact bone substance, and after their insertion it was found that the application of considerable force was not sufficient to loosen them.

The dressings consisted essentially of the iodoform and gauze with a large quantity of borated cotton, which was bandaged snugly over the entire limb. A very heavy posterior splint of plaster was superimposed and the limb placed upon an inclined plane.

Reaction from shock and hemorrhage was prompt. The morning following the operation the patient expressed himself as feeling comfortable, nor did he subsequently make complaints of any kind.

There were no indications for removing the dressings until the end of the third week, when a serous discharge made its way to the surface. Union by first intention had taken place in all situations where sutures had been used, and healthy granulations were springing up over the ulcerating surface. In the popliteal space there was a small discharging cavity into which a drainage

tube was inserted. A wooden splint bracketed at the seat of injury was substituted for the plaster one. During the three weeks following as many dressings were made. The nails had at the end of the fourth week become loosened, and were removed. Bony union was now becoming well established, when on proceeding to remove the drainage tube the popliteal artery was ruptured and a very lively spurt ensued. This was quickly controlled, and as soon as practicable the operation of deligating the vessel was done. The ordinary rule for the treatment of wounded vessels, tying on each side of the rupture, was observed.

The procedure was attended with not more than ordinary difficulties. When the vessel was reached and separated from its surroundings, its walls were found to have become eroded from long contact with the tube, an adhesive process had been set up and on removing the tube the accident had been precipitated.

The limb was enveloped in cotton and replaced upon the inclined plane.

Nothing eventful followed the operation; granulations appeared promptly, and in five weeks the process of cicatrization was complete. The patient commenced to use the limb sixteen weeks from the date of excision.

Three weeks later he left the hospital, and, although on account of the limited function of the other limb, locomotion was awkwardly performed, the result was, altogether, most satisfactory.

The remarkable results which have been obtained in this field are dependent, I think, upon the observance of the following rules:

1. A good general state of health of the patient.
2. The employment of a rigid and rational system of antisepsis.
3. A thorough removal of all diseased structures.
4. Careful attention to joint fixation.
5. A minimum amount of subsequent wound handling.

GENERAL HEALTH.

While the operation is not contraindicated by a moderate degree of visceral disease, such a complication very much affects

the prognosis, and the weight of authority is against the performance of resection, if visceral tuberculosis of any considerable degree exists.

Dr. Rivera y Sans (*Archives de Medicina y Cirurgia de los Minos*) says: "If osteitis of the knee coexists with disease of the internal organs, resection is contraindicated. The question of amputation in these cases is to be determined by the degree and character of such complications." This statement made of children is also applicable to adults, and is very nearly in accord with the teachings of the time. Therefore, when the operation is contemplated, a thorough physical examination of the chest should be made and the urine submitted to a most careful scrutiny. If, in addition to a negative rational history, such an examination reveals nothing, the case is, other things being equal, a most favorable one for operation.

ANTISEPSIS.

It is not my purpose to consider the merits of the germ theory of suppuration, but to prove, as far as my experience goes, the practical benefits which have accrued from the adoption of those methods first pointed out by Sir Joseph Lister.

It has been my good fortune to serve as an hospital *interne* both before and after the introduction of this method of wound treatment, and the difference in the results after its introduction were most convincing. This experience has taught me beyond peradventure that the application of antiseptic methods has been productive of results which text-books of a few years ago and even some of those of today would consider impossible. Thus the idea that suppuration must follow upon the infliction of extensive and deep wounds has been entirely destroyed, so that now instead of suppuration in operative wounds being the rule it is a very rare exception. No one can truthfully deny that this is for the most part consequent upon a careful system of preventing septic extraneous material from entering wounds and finding lodgement there. So that any auxiliaries which we add for the furtherance of this object, such as cleanliness, sterilized absorbable ligatures, etc., are but means to this great end. In this connection I might say that septicemia and pyemia are no

longer the surgeon's bug-bears, but are of such rare occurrence that in a hospital experience extending over a period of two years subsequent to the introduction of antiseptic methods, I do not remember to have seen one case, although in an experience of a few months prior to this era they were of common occurrence.

In his most excellent article upon the comparative results of operations in Bellvue Hospital, Dr. Stephen Smith (*Medical Record*) says: "Excision of the larger joints was formerly a most doubtful and dangerous operation. The wounds were flooded with pus for months; and if the patient survived it was after a most desperate struggle. The specimens of excised joints in the Wood's Museum, honeycombed with channels through which pus flowed out from the deeper parts of the wounds, will be lasting witnesses to the destructive pathological processes which the surgeon of a former period was powerless to prevent. In dressing exsection wounds the old surgeon made ample preparations for suppuration. The wound was left open and the limb placed in such a position as would allow the pus to escape most freely. For months the patients lay in the same position, wasting under the excessive drain and often having as a dreaded complication, extensive bed sores. Now the surgeon completes the operation by firmly and accurately closing the wound at all points except where the drainage tube emerges. This tube is used only for the purpose of relieving the wound of accumulated serous fluids, and is soon removed. As a rule excision wounds now do not suppurate; union takes place by rapid and healthy granulations." While the author does not say that these changes are the result of antiseptic treatment, he nevertheless particularizes the fact that those agents which we call antiseptics are most assiduously used.

Regarding the agents to be employed, I must acknowledge my preference for iodoform and the mercuric bichloride solution as used in the above related cases. I have compared the bichloride with carbolic acid and other fluid antiseptics in a great number of instances, and as a rule it has given me by far the best results. The carbolic acid I prefer where a large amount of the aseptic solution is to be used and an extensive absorbent surface is ex-

posed, for although I have never met with a case of poisoning following the use of corrosive sublimate, the fact has been very well established that such cases occasionally occur, and the possibility of their occurrence should be kept constantly in mind.

REMOVAL OF DISEASED STRUCTURES.

In case I, it is noted that the operator was very careful to dissect away the entire joint-capsule in order to leave a perfectly healthy surface for repair. Although there is probably no step in the operation of more importance, after a rather complete search, I can find this point emphasized by only one or two writers, the others merely stating that such a procedure should receive the attention of the operator. Von Bruns, in his report, quoted above, very properly dwells on the subject. In publishing his remarkable set of cases he says that if success could be attributed to any one cause, it was a painstaking, thorough removal of the joint capsule. True, the sharp spoon may in most instances be effectual, yet, according to my observation, this instrument may have been most carefully used, and still some minute diseased focus may have escaped the eye of the operator, and been left to start up a suppurating process, complicating most seriously the patient's condition. I am impressed with the idea that in Case II the lower pouch would have filled up sooner and the accident to the popliteal been averted, had all the granulation tissue been removed, although the entire pouch was repeatedly treated with the sharp spoon. But of course in this instance we were dealing with a chronic abscess lining, excision of which was impossible.

FIXATION.

Authorities are somewhat divided as to the method to be employed in fixing the ends of the bones and securing the limb in a proper axis. A variety of splints have been devised and championed, and it seems after all that the selection of the splint is a matter of personal preference, for although hardly two surgeons use the same apparatus, the general results do not seem to indicate the employment of any especial method. I have, however, been greatly pleased with the Volkman interrupted splint or

some of its modifications. Having used this method of fixation in the treatment of a large number of compound fractures of the lower extremities, and as the condition left after knee resection is practically that of a compound fracture, my experience with it may be said to be an extensive one.

I have found that, by preventing friction of the parts, it facilitates handling of the limb and changing of the dressings, thus making possible results which could hardly be expected from any other splint thus far devised. Some other advantages are, that it is cheap, easily obtained, and, with a requisite amount of skill easily adjusted. The only objection urged against is that of Prof. Stimson, who gives it as his opinion that in knee excisions without fixation by sutures, the lower segment of the limb falls away from the tibia, if the plaster dressing as above described be used. This was probably the cause of delayed union in case I. If, however, as is the custom, the ends of the bones are fixed by any of the devices ordinarily employed, this objection will not hold.

I cannot too strongly urge the greatest attention on the part of the operator to prevent pressure on the soft parts by the angles formed by the brackets. If such a mishap arises, the result must almost of necessity be disastrous, as it necessitates the cutting away of the plaster and all the entailed moving of the parts.

Of the different methods of fixing the ends of the bones, the ones of principal importance are, suturing by wire, suturing by catgut, the insertion of steel drills and long nails, and the different methods of fashioning the ends of the bones, such as beveling, etc.

The wire suture is the oldest and probably oftenest used. The old way of leaving the ends of the wires protruding from the wound to be afterward removed has recently been almost entirely discarded, and now the ends are hammered down close upon the bone and left there. It is claimed that they become encysted and never give further trouble.

The very serious drawback to leaving the ends of the wires out is that they are often productive of a serious amount of subsequent annoyance, and their removal is sometimes a very

troublesome procedure. In one case occurring in the service of Dr. J. H. Hinton, they were for months afterward the source of constant pain, and it is my impression that an extensive incision under ether was necessary for their removal.

The use of heavy strands of catgut was, I think, introduced into this country by Prof. L. A. Stimson, of New York, who employed them in the operative treatment of fractured patella and afterward to replace the wire in knee excisions. In his first case which was observed by the writer, the result was all that could be expected, the gut holding the bones in position until union commenced to be established. It is claimed that the catgut answers equally as well as the wires, and possesses the advantage of not requiring to be removed. If further experience proves the truth of this assertion, the gut suture will probably entirely take the place of wires, especially where rapid union is to be confidently expected.

Iron nails are very often used for fixing the bones. As ordinarily employed, the ends of the bones are crowded together and two of the nails are driven through the compact substance of the tibia into the cancellous structure of the femur, and in the same way two are driven from the femur into the head of the tibia. This method seems to have found favor with a great many surgeons, nor have I heard any very strong objections to it advanced.

The method of insertion of the nails in Case II. was, as far I am aware, original with Dr. Briden. From my experience with this case I would say that it is an improvement on the ordinary way, because fixation is more thoroughly accomplished, and there seems to be not so much danger of the nails cutting through the cancellous tissue. The different manners of fashioning the ends of the bones such as the mortice and tenon, beveling, fitting convex into concave surfaces, etc., have their advocates, and in many instances doubtless possess a special advantage, I have never seen any of these methods practised, and can say nothing concerning their merits.

A MINIMUM AMOUNT OF SUBSEQUENT WOUND HANDLING.

Under this caption I have deemed it proper to include suturing,

drainage and dressings. It may be argued that these subjects come properly under the head of antiseptic details, and probably such is the case, yet I have often thought that such an arrangement is sometimes the cause of confusion in the mind of the practitioner.

In order to secure an almost certain primary union in operative wounds, we must, in addition to the conditions previously mentioned, have those of accurate and deep adjustment of the apposed surfaces of the wound as well as aseptic, even and smoothly applied dressings.

The profession are every day approaching nearer to the conclusion that the deep coaptation of surfaces affords a condition most favorable for rapid repair; and since the advent of the absorbable suture this indication can without much inconvenience be fulfilled. Dr. Pilcher, of Brooklyn, has called attention to the "buried" suture which consists of a deep muscular layer of sutures inserted just prior to the closing of the wound by the superficial stitches. It possesses the advantage that so much additional surface is apposed, and the wound cavity thereby is decreased in size. I have used the buried suture very extensively in other conditions and have found it in some instances quite an addition to our list of surgical therapeutics.

For a long time it was my practice to use the aseptic catgut for sutures, and I found that it worked admirably, more particularly where primary union was practically assured, and I took great pride in having my amputation and other wounds heal under one dressing. It seemed to me, upon removing the dressings, and rubbing away the ends of the sutures to find everything healed, that it was all the work of magic. Laterly, however, I have had some cases which have somewhat shaken my faith in the universal adaptability of the gut sutures. Not long since on removing the dressings from an amputation wound it was noticed that the sutures had broken and the edges were widely gaping, evidently resulting from a premature absorption of the sutures. This, with one or two like instances has driven me back to the silk suture, and after all the advantages of this suture are very apparent. I have furthermore noticed that well sterilized fine silk sutures can be left in situ for any length of

time without causing any great degree of irritation. There is still one point to which I would call attention, viz., the finer the suture the less the subsequent irritation. A short time since I had occasion to demonstrate this fact in a most convincing way. In exposing a large sarcoma of the hip use was made of a crucial incision. In closing the wound I used for one incision a fine No. 1, iron-dyed silk suture, and at the suggestion of a consulting surgeon, the other incision was closed with a coarse strand of white silk. When the wound was exposed, it was found that where the fine sutures had been inserted, union was complete and firm, but the other incision was suppurating, and at every point where the needle had been inserted there was a focus of inflammation, which process was, I consider, responsible for the failure.

Formerly, when excision wounds were expected to heal by granulation, the employment of a proper system of drainage was a matter of permanent importance. Ordinarily, a thick rubber tube was employed, and it was gradually removed by snipping off a piece every day or so to make room for the advancing granulations. At that time the drainage tube was a feature of wound treatment which was last abandoned. At present its only use is to conduct away the sanguinolent and serous discharges which continue for the first few days, then it is removed. Even at the end of a few hours it can be removed with safety, for it is a fact that such discharges, if not so abundant as to distend the wound cavity, may very readily be absorbed.

Before the advent of the decalcified bone drainage tube, the tubes made of rubber were exclusively in use, and they are now probably more popular than any other system of drainage. I cannot see, however, why it is that the absorbable tube is not much more serviceable, as it does not require to be removed, and as far as my experience has gone is equally effectual.

After adjusting wound edges and providing for the exit of discharges, the dressing is, I think, a simple matter. Suppuration is not expected, therefore a comparatively light dressing is sufficient. A few layers of iodoform or other antiseptic gauze, to be covered with a snugly adjusted layer of a purified absorbent material, preferably the absorbent cotton, and all the indications are fulfilled.

If, as is often the case, the bloody discharge permeates this dressing, it should not be removed, but a few more layers of cotton make it as serviceable as before. If at any time after twenty-four hours after the operation, there is a feeling of pain or uneasiness at the site of the wound, and at the same time a rise of temperature, the wound must be re-exposed, and the cause of trouble sought for and, if possible, removed; but I am glad to say that I have never met with such a contingency, nor do I think it likely to occur when all the above precautions have been taken.

Generally speaking, the thermometer should guide in the after treatment. If it shows no rise of temperature, then we may be assured that every thing is progressing favorably.

I do not refer to the reactionary fever which usually follows within twelve hours, and sometimes rises to 102° F. Farther than this I would not like to see the mercury go, as it would be a very sure indication that something was wrong, and that there was some decided factor which calls for prompt attention and measures.

509 Francis Street.

A CONTRIBUTION TO THE STUDY OF NERVOUS AND MENTAL DISEASES.

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THE HOME TREATMENT OF MENTAL DISEASE.

FROM an experience of fifteen years in nervous and mental diseases we have become satisfied that the curative influence of asylums has been vastly overrated, and that those of isolated treatment in domestic care have been greatly undervalued. The low percentage of cures in asylums has been testified to by the distinguished Dr. Pliny Earle, in his exhaustive researches on the curability of insanity. We do not think that

the profession at large realize the efficiency of the domestic treatment of mental disease during the whole course of the disease, and that a much larger percentage of cures can be obtained under such treatment than if the patient is subjected to the dreary detention of the asylum. There are too many patients in an asylum for each one to get the individual treatment and care necessary for a quick recovery. They are all treated kindly, and the superintendents of asylums are nearly always very efficient men, but it is an impossibility for the ablest man at the head of an American asylum to-day to perform the executive duties devolving upon him, and at the same time give his patients the time and skill necessary to the rapid cure of the disease. Some of them get to the level of a former superintendent of an asylum who declared to me that he never gave medicine to insane patients, he "didn't believe in the medical treatment of the disease," while the more intelligent and professional men know, as one of them lately expressed himself to me, that "we know perfectly well, doctor, that either of us can walk through any asylum and pick out three out of five patients, take them home and cure them promptly." Now, I think my esteemed friend was a little rash in his statement, but I do think that we can take three out of ten patients in an asylum, who would remain there for perhaps two years, if not more, and by individual care and treatment in the physician's home, restore them cured to their families in from six months to a year, while under the congregate plan of treatment in an asylum, at least one out of the three patients would have ended in terminal dementia.

I will give one recent case of mine as an example. About a year ago I was called upon to give an opinion in the case of a wealthy girl who had become insane and who was to be conveyed that day to an asylum. I saw the case, pronounced it one of hysterical mania, and said that under appropriate treatment she might be well in six months' time. At the request of the family, I accompanied the patient and her brother to the asylum. The superintendent differed with me, and told her brother that his sister was suffering from a form of mental disease which would probably last for a year, and that he could not expect to see her again a well woman under several years. This opinion

appeared to us simply absurd, and at the request of the friends, we reiterated our opinion, given at the home of the patient. The superintendent, surrounded by patients he had had for years, could not deem this a possibility. The brother refused to place his sister "for years" under asylum restraint, and we were requested to take charge of the case. She was an aggravated case of hysterical insanity; did not sleep or eat, was totally incoherent, persisted in tearing off her clothes, and generally had no appreciation of her condition or surroundings. We took her home; put her under an excellent trained nurse; induced sleep by the continual hot bath, with cold to the head, followed by a chloral, sodium and hyoscyamus mixture. Gave milk at first in small quantities, very often, and the mono-bromide of camphor (Clin's capsules, Paris, 4 grs. each) (the American preparation is disappointing in its results), and central galvanization, the best combined sedative, restorative and refreshant to the central nervous system, and a remedial agent which furnishes us with the means of modifying the nutritive condition of parts deeply situated, and of modifying the circulation to a greater extent, I think, than by any other known agent. Suffice it to say that by my plan of treatment, in four days this patient was taking her meals with my family; she steadily improved, was taken out driving or walking personally by me every day, and discharged a perfectly well woman in four months' time. She married, had two fine children, passed through the trying ordeal of losing her husband, and has never given the faintest indication of mental unsoundness from the day we pronounced her cured up to the present day. If the mental disease is not hereditary, if the attack we are called upon to see is the first, and if the patient is young, there is no reason in the world why that case should not recover promptly if it is handled properly.

We wish it understood distinctly that we do not reflect upon the medical ability of men, many of whom are personal friends, at the head of asylums. They perform, most of them, very difficult duties with alacrity and faithfulness, but they simply have not the time to devote to any one case to develop all the possibilities of recovery in that case, and, as a rule, the therapeutics of mental disease do not receive the due attention. The patients

are well fed, comfortably housed and kindly treated, and that is all that can be expected in the congregated plan of treatment.

What we have to do in mental disease is to restore to health the disordered brain, to cause the incessant waste to cease, to promote a storing and not an expenditure of nerve force. The brain must be nourished by healthy blood. The quantity of the latter, when in defect, must be increased; when its quality is in fault, it must be improved; and when the blood-flow is in excess it must be checked. All causes of disturbance reacting upon the brain from other organs of the body must be removed. Fresh scenes and faces and the cessation of work and worry will often effect a cure.

The removal of a patient suffering from mental disease from his immediate surroundings is generally necessary for his cure, although this removal need not be to an asylum, as the outbursts of excitement and the delusions connected with those nearest and dearest are antagonized by the moral effect of the change, and if the case is promising and early treatment adopted, a cure will probably result. As a rule patients are not placed promptly enough under adequate and appropriate treatment.

We have found it of great importance in the moral treatment of mental disease, to treat the patient as far as possible as a reasoning being. We proceed on the supposition that our patient will understand more or less correctly all that is said or done to him. We treat our patients as if they were expected to act rationally and lead them to see that after their failure to do what is expected of them they bring upon themselves friendly advice, criticism, reproof and, if need be, restriction.

Respecting the curability of mental diseases our experience has been that when simple, uncomplicated cases of insanity are properly and promptly treated, and the treatment duly persevered in, they are just as curable as are other ordinary serious disorders, and that when entirely cured, where a thorough obedience to natural laws and common sense are subsequently observed, there is no more reason to anticipate a return of the disease than there would be in other maladies under similar circumstances.

While it is not necessary that every patient, who is suffering

from insanity should leave home for treatment, there is no doubt that the general experience of physicians is very positive that, for a large number of these who are thus affected it is a necessity and must be joined to the patient's being placed under the care of some physician who has made a special study of the whole subject, if it is desired to give the patient the best chance for restoration.

The following case illustrates a class of cases where the home treatment of mental disease is applicable:

A young man, æt. 27, who had suffered for some months from neurasthenia, and who had for some time suffered from an overwrought condition of his nervous system, being sleepless and eating poorly, and who had been for a few days melancholy and depressed, was precipitated by the heat which came on in New York during the first ten days of September, 1884, into a condition of sub-acute mania. He was a broker by profession, and had inherited, from his father, who had been an epileptic, a weakened, if not actually diseased nervous system, which predisposed him to the acquisition of insanity or some other neurosis on the application of a slight exciting cause. We had treated and cured his sister of a similar attack two years before. In his early years he had been addicted to self-abuse, but not lately. His eyes were suffused, his head was hot, his extremities cold. He had no appreciation of his condition and surroundings, and he had rapidly changing delusions. Up to Sept. 10, he had manifested no delirium, but had done everything in a confused mechanical way for the preceding week, and had dropped his horses' reins, when out driving, while going rapidly. He could give no account of himself whatever. I ordered him removed from his boarding house to his sister's residence, and then assumed the care of him with a good nurse. He was ordered hot baths, of half an hour's duration, of the temperature of 98°, with cold to the head daily at 4 P. M.

He was given to quiet the delirium:

Ry Sulphuric ether, - - - - - 3j.

Liq. opii comp., - - - - - gtt. xx.

pro re nata, with soft boiled eggs, milk and raw oysters freely, and often. One dram of Warburg's Tincture was ordered for a

nerve tonic before breakfast daily, and the following reconstructive sedative mixture was ordered to be given by the nurse, at 10 A. M., 4 P. M. and 10 P. M., in doses of two teaspoonfuls in water.

R _x	Sodii bromidi,					
	Ammonii bromidi,		-	-	-	aa ʒss.
	Pot. bromidi,		-	-	-	ʒi.
	Syr. hypophosphitis comp.,		-	-	-	ʒiij.
	Syr. tolut,		-	-	-	ʒj.
	Aquæ menth. pip.,		-	-	-	ʒjss.
	Liq. pot. arsenit.,		-	-	-	ʒj.

M. Dose two teaspoonfuls thrice daily in water.

Under this treatment, with perfect rest in bed, quiet and a good nurse, I had the satisfaction of seeing this young man make a recovery to sanity in a very short time. I then sent him into the country for rest and a bracing atmosphere, ordering horseback exercise daily. In puerperal insanity I have seen equally good results in home treatment, commencing with a full purgative dose of hyd. chlor. mit., followed by salines and then gin, ether and opium, as I have mentioned, at night to produce sleep. In delicate neurasthenic women with uterine complications, a good nurse, perfect rest, one dram of Warburg's tincture daily before breakfast, the fluid ext. of coca when indicated; quiet nervousness by either the compound bromide mixture, for which I have given the formula, or by the following:

R _x	Zinc valerianat.,		-	-	-	ʒj.
	Ext. belladonnæ,		-	-	-	gr. jss.

M. Div. in pill No. 30.

Sig. One pill every two hours.

This simple treatment with massage, milk diet and electricity will save many cases of neurasthenia and hysteria from an insane asylum. I treat many such every year, admitting them as patients into my own family and witness rapid cures. There is another form of mental excitement which occurs in women at the climacteric period, and which often runs into insanity that consigns them to asylums for years. I have checked this peculiar form of mania, which is characterized by suspicion, sleeplessness and refusal of food, by hot vaginal douches, given by a

trained nurse daily, and the following pill, given every hour or two hours, as the necessities of the case demand.

R \bar{y}	Pulv. camph.,	-	-	-	grs. vi.
	Ext. hyoscyam.,	-	-	-	grs. xiv.
	Pulv. digitalis,	-	-	-	grs. iv.
	Mucil acaciæ	-	-	-	q. s.

M. ft. pill No. 6.

This pill can be followed by the compound bromide mixture until the patient is well. Port wine at dinner, plenty of malt and hypophosphites together with that admirable nerve tonic Warburg's tincture in one dram doses before breakfast. Advancing age brings with it, perhaps, depressing cares and irritating environments, or the brain has been overworked and overworn, so that very few women reach the menopause with a vigorous and well poised nervous system. One great reason for this, I think, is that very few women will give the necessary time for the recuperative rest to mind and body. Many women who are inheritors of neuropathic tendencies are attacked by mental disease before the menopause is reached, and are cases of psycho-sensory insanity. They are affected in the moral or emotional part of the mind, while the intellect remains apparently unaffected. It is an insanity of feeling. These women show their mental alienation by a change from affectionate wives, good mothers and careful housekeepers, to a condition in which they lose all interest in husband, children and house. Their affections are perverted: they are dissatisfied with everything, and will evince hatred of husband and children and of those nearest and dearest. Yet the very same woman will join in conversation with strangers with the full command of the intellect, so that a casual or even a careful observer would not imagine that such a case was one of true psycho-sensory insanity. There is a morbid perversion of the affective life and a change in character. The conduct is as bad as possible at home, and fairly good, perhaps, when among strangers. These women are prompt and subtle in finding excuses, and so plausible as to deceive the public respecting their unsoundness of mind. I have seen many such cases during the past fifteen years and the symptoms I have detailed are perfectly characteristic.

Many of them take chloral or stimulants to relieve the insomnia from which they suffer, and thus render their brain state more hopeless.

A very much larger percentage of cures than is usually supposed can be obtained in the neurotic disturbances incident to the menopause by careful individual treatment. Every case should have a good trained nurse, and, under judicious treatment, many may be restored permanently cured to their homes and to society.

There is an increasing number of cases of dipsomania or uncontrollable intemperance developing among women yearly. In these cases the morbid craving for alcohol in some shape, which the will is powerless to control, springs from a disorder of the centric nervous system, and is curable. There is much domestic distress and sorrow and many families are wrecked and ruined by the family not controlling and dealing with these cases. The periodical craving for alcohol, which is perfectly irresistible, is analogous to recurrent mania, and the woman who suffers from the disease of inebriety requires firm, kind and judicious control just as much as mental cases do, and they are curable in a large proportion.

I never experience more satisfaction than in sending home perfectly restored to mental and physical health a man who has come to me with a broken down constitution and a shattered nervous system, the result of the alcohol habit.

A single case, now under treatment, illustrates what can be done with these cases.

Mrs. B., a resident of Brooklyn, came to me voluntarily on Christmas day, asking me to receive her as a member of my family and not to allow her to go until cured. She was accompanied by her husband. She drank at first periodically, in obedience to an irresistible craving for alcohol which she could not resist, the cause being sexual neurasthenia. In the intervals between her paroxysms she disliked liquor and never tasted it. The disease progressed until at length the craving became a daily matter, and she was constantly under the desire for stimulants. She deplored her condition, appreciated it perfectly, as she is a highly refined and cultivated woman, and was most anxious to be cured.

She had not slept for several nights and could retain no food on her stomach. She was immediately put to bed and given half an ounce of Irondale spring water every fifteen minutes to quiet her stomach. Valentine's meat juice in half-teaspoonful doses was now given at short intervals, and $\frac{1}{80}$ of a grain of hydrobromate of hyoscin at bed time, which gave her seven hours sleep. In the morning "Lactated Food" was given, alternating with Valentine's meat juice. This diet was kept up all day, and $\frac{1}{80}$ grain of hydrobromate of hyoscin the following night, the patient being kept in bed. A tonic containing quinine, strychnia, phosphoric acid and tincture genitan compound, was given before each meal and the patient put under a trained nurse with strict instructions to see that she had no alcohol in any form. This patient is still (Jan. 3) kept in bed. She sleeps ten hours each night. She eats well and all nausea and vomiting have long since ceased. The mental condition is perfectly good, while on Dec. 26 she had delusions of hearing. On Saturday she will be taken out of bed for daily exercise. Will have full diet with the exception of meat, which she can have but very sparingly, and then only the white meats in moderation. No stimulants at all. Plenty of malt and hypophosphites. Continuation of tonic containing quinia, strychnia, phosphoric acid and gentian compound, $\frac{1}{80}$ gr. of hyoscin at night to ensure sleep and quiet nervousness on following day. This is a capital hypnotic, superior to paraldehyde, urethan or hypnone. It gives seven hours sleep and holds the nervous system quiet during the following day. If this patient's delusions had continued we should have given one teaspoonful of tincture digitalis and two of tincture valerian early in the morning and at noon to banish them. The patient will not be allowed to visit any place where stimulants are sold nor to go out alone without her nurse until her will power is perfectly restored and the craving for alcohol cured. In six months we anticipate sending this case home permanently cured with no danger of a relapse.

204 Lefferts Place.

CASES FROM PRACTICE.

CITY HOSPITAL REPORT.

H. C. DALTON, M. D., SUPERINTENDENT.

REPORTED BY DR. BRANSFORD LEWIS, SENIOR ASSISTANT PHYSICIAN.

CANCER OF LIVER AND PANCREAS — HEMORRHAGE FROM THE
BOWEL—DEATH—AUTOPSY.

C. B., æt. 66, German, single, carpenter, was admitted Oct. 15, 1886, while suffering acutely from a constant pain in the right hypochondrium; added to this was a paroxysmal pain of a sharp, cutting nature in the same location. Both had been present since Oct. 6, 1886. Patient was extremely restless, tossed about in bed, seeming to have no control over himself, and was unable to give any connected account of his illness. He had had chills and fever some time before, but did not know how long since. Had frequently been nauseated and had vomited after eating. A cough, with expectoration of whitish tenacious mucus had begun prior to the onset of pain. Jaundice had been present, he asserted, for three days only, (patient was blind and had only learned this from friends). Insomnia, anorexia and increased thirst had been marked features, and the bowels could be moved only with purgatives. Respiration was much impeded by the pain which it caused.

There was no emaciation; in fact, the patient was inclined to corpulency. Jaundice was general and intense, of a lemon-yellow hue. Heart and lungs appeared normal to physical examination; splenic area of dulness decreased. On palpating the abdomen, a firm, smooth body in the location of the ascending colon at about its junction with the hepatic flexure gave the impression of a colon distended with feces. This disappeared to a considerable extent after the action of purgatives. The gall bladder could be felt below the lower margin of the liver, which reached two

finger-breadths below the costal arch. It was extremely tender to the touch. Urine, sp. gr. 1015; highly colored with bile pigment, faintly acid; chlorides diminished, phosphates in only about one-fourth the normal amount. No albumen.

On the morning of Oct. 21, no relief having been afforded the patient except that produced by the administration of sedatives and the above mentioned purgatives, he was found to be almost pulseless. It was observed that some blood had been discharged from the bowel; this was repeated about the time of his death, an hour afterward. Temperature had dropped gradually from 38.9° C. (102° F.), on the day following his entrance to 35.6° C. (96.1° F.) on the evening previous to his death.

AUTOPSY.

Pia mater edematous. Abdomen contained a considerable quantity of dark yellowish-green fluid. No evidence of peritonitis. Kidneys: consistence firm, color pale; the differentiation between cortical and medullary substances was poorly marked; cortical portion very much diminished. Ductus communis choledochus allowed the passage of bile, although several hard nodules from the liver projected into it. The liver weighed 1840 gm. (61 ozs.) and measured $23 \times 19 \times 8$ cent. $9 \times 7\frac{1}{2} \times 3\frac{1}{2}$ inches). Seven cancerous nodules were counted on its surface; all except one at the base of the fissure for the gall bladder, were $1\frac{1}{4}$ cent. (about one half inch) in diameter; the one specified was about the size of a pigeon's egg. They were whitish-gray in color and elevated one min. above the hepatic surface. The color of the liver was a yellowish-green. There was a ring of jaundiced tissue about the intra-lobular veins; no evidence of fatty change. More than the usual amount of blood flowed from its cut surface.

The whole head of the pancreas was involved in the cancerous growth. The large bowel contained a moderate quantity of disorganized blood; its mucous membrane presented many hemorrhagic streaks and spots. Stomach and small intestines were normal.

Case was under Dr. Shattinger's charge.

CASE II. — COMPLETE FRACTURE OF CLAVICLE BETWEEN THE FASCICULI OF CORACO-CLAVICULAR LIGAMENT. — NO DISPLACEMENT.

C. F., æt. 41, St. Louis, single, carpenter, admitted Feb. 10, 1887. While intoxicated, patient fell from a hay-loft to the ground, a

distance of nine feet, striking on his right shoulder and hand. The former showed evidences of contusion at the time of his entrance. Voluntary movement of that arm was limited and painful, but he was able, with an effort to place his right hand on his head. There was some swelling of the soft parts about the shoulder but no deformity of any of the bones in its neighborhood. Pressure near the acromial end of the right clavicle caused sharp pain at that point. By grasping the clavicle about its middle with one hand, and at its acromial end with the other, and making forcible traction in opposite directions, distinct bone crepitus could be obtained, but no displacement was produced. Patient departed, against advice, four days later.

In charge of Dr. J. L. Adams.

CASE, III.—ANGINA PECTORIS.—HEMIPLEGIA AND PARAPLEGIA.

Geo. M., æt. 35, German, single, farmer. Was admitted to hospital several times. Patient knew of no family predisposition to any certain disease; he had formerly been of strong constitution. Denied positively any venereal infection. Habits had always been temperate. In May 1884, while he was working in a field, he was suddenly stricken down with unconsciousness, and, upon recovering twenty-four hours later, found complete paralysis and great diminution of sensation of the left arm and both lower extremities. For six months he was unable to give utterance to a single sound or swallow any solid food. At the end of that time, after vomiting a considerable quantity of blood (cause unknown), he suddenly found himself able to whisper and to take solid food. Some time in October 1884, while sitting in a chair at the Charity Hospital, New Orleans, where he was receiving treatment for his paralysis, the first attack of angina pectoris occurred. For a month thereafter, he suffered attacks every few hours, day and night, and then in gradually diminishing frequency until they occurred only every three or four weeks. With the lessening in the number of attacks, strength returned to his limbs, sufficient, finally, to allow of his walking with the aid of canes. But in July, 1886, the left arm suddenly became as useless as before, and has remained so since. This last stroke seemed to have no relation to the angina, manifestation of which, as observed in the ward, was about as follows: Without warning, other than a twitch of the lower extremities, he is seized with a piercing pain in the cardiac

region, at which he clutches for relief. His face reddens, his eyes roll upward, respiration is carried on in gasps, expiration being slow and prolonged and followed frequently by series of shorter gasps. A moan of rather high pitch sometimes accompanies the expiratory effort. He writhes in agony, assuming different positions in bed, most often that approaching opisthotonos. Pulse becomes increased in frequency and force, but the heart neither palpitates nor becomes irregular. The pain does not shoot up to the shoulder or down the arm. The duration of the paroxysms varied from one to ten minutes and was shortened by nothing except the inhalation of chloroform, nitrite of amyl or morphia seeming to have no influence whatever. Of the prophylactics given, tincture of glonoine seemed to exercise the most beneficial influences. During its administration, at one time there was no recurrence of the malady for two months.

Physical examination of the organs of the abdomen and thorax, especial attention being paid to the heart, disclosed nothing abnormal with them. During the latter part of his stay in the hospital, a regularity in the appearance of the attacks, every twenty-two days, was noticed; aside from this no indication of their approach could be discovered.

Drs. C. Shattinger and W. N. Beggs have assisted in the collection of the notes on this case.

SCIENTIFIC MEDICINE AND CHRISTIANITY.—Rev. A. P. Happer, M. D., in an address to medical students in New York City, said—“In the providence of God, the knowledge of *scientific* medicine and surgery *only exist* in countries *where Christianity is found*. It is safe to say that the knowledge of healing is thus, in the providence of God, given in connection with Christianity, and is therefore as sacred a trust on the part of those who have it, as Christianity itself. * * * You may search from China to India, and every heathen and moslem country, and the result of your investigation will soon confirm this position, that in no heathen or moslem country is there an instance of the existence of any *scientific medicine or surgery*.”—*Med. Miss. Rec.*, Jan., 1887.

EDITORIAL.

INVESTIGATIONS ON CHOREA.

The Committee on Collective Investigation of Disease have done a good deal of very valuable work in the compilation and analysis of statistics with regard to various diseases. During three years from Sept. 1882 to Oct. 1885 an inquiry was carried on with regard to chorea. The final report was compiled by Dr. Stephen Mackenzie from the report of 439 cases contributed by various members of the profession in different parts of the United Kingdom.

As to sex it was found that there were nearly three females to one male. In the 439 cases there were 114 males, 322 females and 3 whose sex was not specified.

The ages arranged in periods of five years ranged as follows:

YEARS.	CASES.	PER CENT.
Under 5	6	1.36
6 to 10	149	33.96
11 to 15	191	43.50
16 to 20	71	16.15
21 to 25	10	2.29
26 to 30	2	.45
31 to 35	1	.22
36 to 40	1	.22
Above 40	6	1.36

The greatest number of cases occurs in the period from 11 to 15 years, and the next in that from 6 to 10 years, and over 93 per cent occurred in the period from 6 to 20 years of age, and over 77 per cent in the period from 6 to 15 years.

The youngest case was three years old a girl. The oldest was a woman 86 years old.

As to social position the cases are recorded as belonging to the upper class 12 (males 3, females 9); to the middle class 115 (males

41, females 74); to the lower class 303 (males 71, females 232). Nine cases were not classified.

Concerning state of nutrition the patients are stated to have been thin in 212 cases, or in 48.26 per cent., to have been moderately well nourished in 181 or 41.23 per cent; and stout in only 43 cases or 9.76 per cent.

The patients were reported to be weak in 133 cases, or 30.29 per cent; moderate in 202, or 46.01 per cent; strong in 69, or 15.71 per cent.

The complexion is reported as fair in 232, or 52.84 per cent, dark in 191, or 43.50 per cent, mixed in 1, or .227 per cent.

The intellectual condition seems to have been normal in 298 of the cases, or 67.88 per cent; fairly good in four cases; above the average in 58 cases, or 13.21 per cent; and above the normal only in 29 cases, or 6.6 per cent. The patients were considered excitable in 12 cases, timid and nervous in 5, anxious in 2, highly nervous in 1, cheerful in 2, hysterical in 2.

The rate of growth has been moderate 208, or 43.38 per cent; rapid in 159, or 36.21 per cent; slow in 49 or 11.16 per cent.

So large a proportion of the cases occur at an age before menstruation would be normally established in female patients that the figures given on this point do not seem to be of very material importance. In no case is menstruation reported to have occurred under 13 years of age. In five cases under 10 years of age it is mentioned that menstruation had not occurred, and in 28 cases between 10 and 13 years old. In 37 cases over 13 years old menstruation is said not to have appeared, in 44 cases to have been regular and in 32 cases to have been irregular. Seven women were pregnant at the time of the attack, and one was suckling an infant.

The food is stated to have been sufficient in 384 cases, or 87 per cent. Insufficient in 48, or not quite 11 per cent. In one it is said to have been excessive, in two bad and in one of doubtful quality.

The attack recorded was the first in 306 cases, or 69 per cent;

the second in 80, the third in 18, the fourth in 7. In 13 cases the patient is stated to have had several attacks, and in 10 cases the number of attacks is not stated.

With regard to antecedent illness it is stated that in 116 cases there had been rheumatism with distinct joint affections and fever, and in 62 cases there had been rheumatic, vague or growing pains, and in one case chronic rheumatism. In addition to these there were 26 cases in which rheumatism occurred during or after the attack of chorea, never having appeared previous to the development of chorea.

Scarlet fever was an antecedent in 129 cases, measles in 116 cases. The reporter remarks that considerable interest attaches to the question of the influence of scarlet fever, measles and other exanthemata in the causation of endocarditis, thus leading to the production of a murmur which may be present previous to the attack, or be heard in an attack of chorea, or may predispose to the production of a murmur during the attack, this without reference to the share, if any, which endocarditis has in causing chorea. In analyzing the statistics he is led to the conclusion that scarlatina does predispose to the occurrence of heart affection in the attack of chorea, but that measles has no such tendency.

Anemia is recorded as an antecedent in 92 cases, lasting for periods varying in duration from weeks to months or even years.

The exciting cause was of a directly or indirectly nervous character in 222 cases. Fright is given as the cause in 98 cases and shock in 17. The interval between the fright and the development of the attack was within a week in 44 cases, and from one week to one year in 82 cases. Mental overwork is given as the cause in 71 cases (15 males, 56 females). Of these, 6 males and 21 females were between 6 and 10 years old, 7 males and 19 females between 11 and 15 years. Bodily overwork is given as the cause in 34 cases or, rejecting two cases, aged respectively 63 and 68 years, in 32 cases. Of these 1 male and 2 females were between 6 and 10 years old, 6 males and 6 females were between 11 and 15 years, 4

males and 11 females between 16 and 20, 1 male and 1 female over 20 years.

The attack was severe in 160 cases, moderate in 188 cases, mild in 81 cases.

The usual duration of an attack is found to be from two to three months. Death occurred in 9 cases, or 2 per cent.

One of the most important sections of the inquiry relates to the condition of the heart before, during, and after the attack of chorea.

There was some heart affection, of a more or less definite character, in 142 cases. In addition to these, in 73 cases (males 21, females 51, sex not noted 1) or 16 per cent, there was some derangement of function, or change of an indefinite and probably not organic character.

Mitral disease was the most common, there being 116 cases of purely mitral disease against 6 of purely aortic disease.

Of the cases in which the heart affection was regarded as definite, 141 (males 40, females 101), it was associated with acute and subacute rheumatism in 71 cases (males 21, females 50), or 50 per cent. It was associated with pains in 18 cases, or in 12 per cent. There was no rheumatism, antecedent or coincident, in 50 cases, 35 per cent. Leaving out the cases in which it is stated that pains had occurred, it is noted that the heart disease was associated with rheumatism in 50 per cent against 35 per cent in which no such association is recorded. This calculation of course, has no bearing directly on the connection between rheumatism and chorea, but only on the influence of rheumatism in the production of the heart disease met with in cases of chorea.

As regards treatment the reports show that very few cases were treated without drugs; of those which were so treated, however, it is noted that the duration of the attack was about ten weeks, not varying much from the average duration of all cases, however treated.

No drug is believed to exercise any specific influence over the course of the disease, the same drug which seems successful in some cases failing entirely in others.

Arsenic and iron were used in more cases than any other remedies. Arsenic seems to have been strikingly useful in some cases, but in other cases was little, if at all, useful.

Salicin and salicyl compounds were remarkably useful in some cases. Among the other most beneficial remedies were the sulphate, valerianate and oxide of zinc, the latter given in combination with belladonna, bromide of potassium and chloral.

CONNECTION BETWEEN NASAL AND OPHTHALMIC DISEASE.

Affections of the nasal mucous membrane at the present day receive especial attention because of the well known fact they not infrequently are at the bottom of derangements of distant parts. Some forms of asthma, for instance, have been found to depend upon local nasal disease, and disappear only after the relief of this. Nor should this "sympathetic" influence surprise us when we reflect upon the great sensitiveness of the nasal membrane, and bear in mind the remarkable erectile tissue it possesses, with its abundant nerve supply.

Every practitioner has met with cases in which the eyes are coincidentally affected with the nasal passages. Indeed it is thought, and with reason, that the brain may be disturbed through the same cause, a collateral congestion being excited, or an interference with the lymphatic circulation.

In the archives for nasal therapeutics (*Centralblatt Med. Wiss.*, No. 50) it is held that apart from the obvious involvement of the lachrymal duct and consequent blocking of the tear flow, trachomatous disease may ensue upon extension of nasal catarrh to the conjunctiva. When there is a traumatic injury to the corneal epithelioma, and at the same time ozena existing, a suppurating corneal ulceration may occur. In most cases of phlyctenular keratitis of scrofulous nature, the nose is first affected and the disease

attacks the eye secondarily. Sometimes asthenopia seems to depend upon a chronic nasal catarrh, disappearing only after treatment of the latter.

These observations only heighten the recognized importance of watching closely nasal disease, which, without doubt, has yet to receive proper consideration at the hands of the profession.

ATRESIA OF THE JEJUNUM IN A NEW-BORN CHILD IN CONSEQUENCE OF INTRA-UTERINE ENTERITIS AND PERITONITIS.

Von Kirchner reports (*Berlin Klin. Woch.*, No. 26) the death of an eight days child under these circumstances. The child at birth was vigorous, but for three days had no bowel movements, and regularly vomited all food taken. The midwife stated that at birth a considerable quantity of meconium was vomited. In the left hypochondriac region there was dulness that disappeared under injections of warm water, which brought away peculiar masses. These masses consisted of a conglomeration of epithelium, round-celled matter with spindle-cells and blood-corpuscles. On the eighth day the child died in collapse, after vomiting fecal matter repeatedly, which was twice mixed with blood.

Post-mortem: The first part of the jejunum was adherent to the omentum and to the parietes: One metre from its origin the jejunum ceased abruptly, a thin, reddish thread, about one centimetre long, connected it with the ileum, which was firmly contracted with a tube the size of a goose-quill.

This thread was impermeable for the finest bristle. Above this constriction the intestinal contents were of chocolate color, the mucous membrane deep bluish-red, loosened and easily torn. Von Kirchner thinks this condition was due to fetal disease—an enteritis with peritonitis. Perhaps the first consequence of the enteritis was peritonitis, which besides other adhesions formed a band-like

one with the abdominal wall; this induced a twist in the gut below that resulted in atrophy and the thread-like section. The disease must have occurred early in fetal life to account for the metamorphosis of the gut and the inflammatory exudation. The mother declared that during pregnancy she had not been sick, nor had she met with any accident.

THYMOL AS A TENIACIDE.

M. Numa Campi, in *Nouveaux Remèdes*, January 24, proposes thymol as an excellent remedy for the expulsion of teniæ. The physiological effects of thymol are little known. Lewin attributes to it antiseptic and germicide properties four times as strong as those of phenic acid. Bucholz has recently made a comparative study of its antiparasitic properties, and has seen that a solution 1 to 2000 prevents the development of bacteria, and that it can be surpassed only by the bichloride of mercury; benzine, phenic, salicylic and boric acids, creasote, the sulphates of quinine, copper, and zinc and alcohol being in this respect far inferior to it. The action of the thymol is not limited to the inferior organisms alone. It act also upon the higher animals and upon man. Lewin has discovered that frogs placed in a weak solution of thymol become insensible and can no longer react to mechanical and chemical stimuli, while electrical stimulation of the muscles and nerves remains unaffected. Thymol attacks leucocytes rapidly and destroys their mobility. These properties of thymol suggested that it might be of service against teniæ, especially since the experiments of Federici have shown that it has an action upon the anchylostome duodenale, the parasite which causes that terrible malady, St. Gothard's disease, or the anemia of miners. But to use it successfully we must know not only its physiological action but also its dosage.

This remark which is true for all medicaments, applies especially to anthelmintics, whose mode of action depends upon the manner in which they are administered. Dr. Vanni, assistant to the medical clinic of Florence, in the first case treated by thymol, gave it in the dose of three grammes, [grs xlv] divided into several parts during the day, followed by twenty to thirty grammes, [about an ounce] of castor oil at night. He secured the expulsion of only five or six segments of the tenia. The following day he administered six grammes of thymol in twelve doses at quarter-hour intervals, the third day the entire worm including the head, being expelled.

M. N. Campi ordered it in the following manner. In the morning he prescribed 30 grammes [one ounce] of castor oil, during the day eight grammes of thymol in twelve doses every quarter hour; twenty minutes after the last dose, he ordered 20 grammes [over a half ounce] of castor oil. A few minutes after a tenia *medicannelata* 3½ metres [11 feet] long was expelled with its head.

It is important during the administration of thymol to give a cordial, a stimulant, cognac or rum; for the thymol exercises a depressing action, as Husemann's experiments show. Even in small doses the pulse becomes more feeble and frequent, the respiratory movements and temperature are lowered. All these effects are promptly dissipated by the use of stimulants.

According to Husemann and Lewin thymol should be administered in small doses, for, as it is caustic, they fear it may produce digestive troubles and gastro-enteritis. They recommend to give 8 to 12 grammes [two to three drams] of a one-half per cent solution. Such doses would be too homeopathic, for, according to Campi, thymol may be given in the dose of 8 grammes without causing any intestinal disorder.

In case of an error of diagnosis it purges and disinfects the alimentary canal. The author thinks that this is a real specific for tenia.

INOCULATION OF TUBERCLE IN A CHILD.

An interesting case is reported in the *Wiener Med. Woch.*, No. 47, of a child 5 months old, who was circumcised according to the Jewish ritual; it was well nourished at the time, but the wound became ulcerated, with a yellow, closely adherent secretion. In the prepuce at the frenulum was a hard nodule, the size of a pea; the inguinal glands, both sides, were markedly swollen, and on the left the skin was perforated—a turbid serum with particles of cheesy glands flowed out of it. There was a large fluctuating abscess over the left mastoid process behind the ear. No other lymph glands affected. The cheesy inguinal glands were extirpated and the anal abscess opened. This exposed a rough bony surface. Traumatic erysipelas followed, after a few days' tetanus and death. Tubercle bacilli were found in quantities in the ulcerated prepuce and the degenerated glands. The circumcisor, who sucked the wound he made, proved to be tuberculous; there was phthisis of the lungs and larynx, and bacilli in the sputa.

HELP TO THE TEACHING OF PHYSICAL DIAGNOSIS.—J. C. Edgar mentions an ingenious device which he adopted while acting as assistant to Prof. Loomis in Bellevue Hospital, in making the examination of patients more valuable to the class receiving instruction in physical diagnosis, from the eminent clinician. Upon the cloth back of strips of rubber adhesive plaster are printed the various signs of thoracic or abdominal disease, *e. g.*, “sonorous râles”, “dulness”, “diminished expansion”, etc.. Then as the Prof. made his careful examination and indicated the signs found, the appropriate labels were attached at the different spots designated and the patient so prepared is handed over to one or more students to examine at leisure. The device is well worth the notice of clinical teachers. *Med. Rec.* Feb. 15.

DRUGS AND MEDICINES OF NORTH AMERICA.—The whole of the December issue of this journal is devoted to a consideration of the Lobelias.

BOOK REVIEWS AND NOTICES.

A MANUAL OF MIDWIFERY. By ALFRED LEWIS GALABIN, M. A., M. D. P. Blakiston Son & Co., Philadelphia. 1886. 8vo.; pp. 740; 227 woodcuts; cloth, \$3.00 ; sheep, \$3.50.

The author of the volume before us has not aimed to produce an encyclopedia of obstetrics, but "a book which should be literally a manual in point of size, and yet should include all that is likely to be required by students or practitioners." In our opinion he has been remarkably successful in attaining the object aimed at. His style is clear, and he presents his views quite impressively. In most regards he is in accord with the leading authorities.

The author calls attention to bimanual examination as a means of diagnosing early pregnancy, remarking that if the peculiar elastic enlargement of the fundus, to which Hegar called attention, is associated in a multipara with a little mucoid secretion from the nipple on pressure, the diagnosis of pregnancy, even as early as the third or second month, may be practically positive for one who has the requisite *tactus eruditus*.

He favors the careful use of chloroform (in preference to ether) during the second stage of labor, and advocates the immediate operation for laceration of the perineum, in both of which we heartily agree; but he does not seem to appreciate the value of electricity in the treatment of extra-uterine pregnancy, advising puncture and the injection of morphia as the safest and best method of procedure, whereas the latest observations show far better results from the use of electricity.

Some of the practical points of difference from most authorities are the following: Dr. Galabin prefers to seize the lower leg in performing version for shoulder presentation; he uses the vectis in protracted labor with an unreduced occipito-posterior position of the vertex, and advocates the use of an oscillatory movement under certain circumstances in extracting with the forceps.

The author recommends as a routine practice the administration of a vaginal douche at least twice a day, a practice which we think

savors of meddlesome midwifery. It is better to omit such injections unless there be some special indication for their use. He gives very clearly the indications for intra-uterine irrigation. We should decidedly differ with him, however, in the preference for metal or vulcanite tubes for injecting the uterus; glass is far preferable, being readily rendered aseptic by heat, and also allowing us to see at once whether the tubes are clean or not by holding to the light. The volume is a good one for the use either of student or practitioner.

E. M. N.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume IV. Edited by J. EWING MEARS, M. D., Recorder of the Association. Philadelphia: Printed for the Association, and for sale by P. Blakiston, Son & Co. 1886. 8vo.; pp. 343; cloth.

This volume is handsomely printed on excellent paper, as its predecessors have been.

The number of papers presented is not large, but some of them are the product of an immense amount of research and labor, notably the paper of Dr. Senn, of Milwaukee, on the Surgery of the Pancreas, a valuable and exhaustive monograph upon the subject which, as it well deserved, has been published by itself as well as in this volume.

Another valuable paper is that entitled "A Consideration of the Bacteria of Surgical Diseases," by Harold C. Ernst, M. D. The president's address on "The Union of Nerves of Different Function Considered in its Pathological and Surgical Relations," is also worthy of note, and will repay a careful perusal. Besides these there are a number of very interesting reports of cases. The volume is worthy of a place in the library of every surgeon.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES for the Fiscal Year 1886. 8vo.; pp. 312; paper.

In addition to the technical details of the work done at the various hospitals and the expenses incurred in administering them, more than half of the volume is devoted to the record of "Selected Cases from Hospital Practice," some of which are of very great interest. At the close of the volume is given an "Abstract of the Conclusions Adopted and Propositions Rejected by the Technical Commission of the International Sanitary Conference of Rome," a paper of value and interest to those interested in sanitation.

DISEASES OF THE JOINTS. By HOWARD MARSH, F. R. C. S., etc. With 64 illustrations and a colored plate. Philadelphia: Lea Brothers & Co., 1886. 16 mo.; pp. 461: cloth. (St. Louis: J. L. Boland; J. H. Chambers & Co.)

Lea Brothers & Co., of Philadelphia, and Cassell & Co., of London, are publishing conjointly in the United States and Great Britain, an excellent series of clinical manuals on various special subjects, each one prepared by one eminent in his own department. The volume before us is one of these manuals, and is an excellent treatise on the subject under consideration.

Mr. Marsh has given us a book that is readable and impressive in style. He has shown good judgment and skill in the selection of illustrative cases, and the whole work is well worth studying. He strongly advocates rest in bed in the treatment of scrofulous joint disease. He asserts that patients suffering from scrofulous joint disease are little liable to phthisis. He believes, judging from his own experience and observation, that bony ankylosis, following suppurative hip-joint disease is rather the exception than the rule. He decidedly opposes early excision of the hip-joint, and believes that this will be advocated less and less in the future as the rest treatment becomes better understood and more generally adopted.

One great advantage of the mode of treatment advocated by Mr. Marsh is that it can be effectively carried out by any practitioner, as well as by the distinguished specialist.

While we may not accept the reasoning of the author in all particulars, as, for example, his explanation of the reason for the beneficial influence of extension in the treatment of hip-disease, we can but approve successful results; and we feel that we can heartily commend this little volume to the attentive consideration of our readers.

A REFERENCE HAND BOOK OF THE MEDICAL SCIENCES. By various writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by ALBERT H. BUCK, M. D. Volume IV. New York: William Wood & Co. Quarto, pp. 816; cloth, sheep and half morocco; \$6.00, \$7.00 and \$8.00 per volume.

This fourth volume of the "Reference Hand Book" contains the discussion of a number of topics of very great importance and interest to physicians and surgeons; and the manner in which these subjects are treated well sustains the expectations which were warranted by the first volumes.

Among the papers of special importance are that on inflammation, giving the modern accepted views of the influence of micro-organisms, those on the various forms of insanity, the different affections of the kidney, labor, affections of the larynx, the liver and its diseases, and that on micro-organisms, the latter of which is accompanied by two chromo-lithographs, showing the appearance of various cultures of various bacilli, cocci, etc.

Among the names of authors contributing papers to this volume, we note with pleasure those of Profs. Alt and Baumgarten, of St. Louis, whose papers are a credit to our city.

COCAINE DOSAGE AND COCAINE ADDICTION.—J. B. Mattison records fifty cases, collected from various sources, in which fatal or extremely alarming results have followed the administration of cocaine, or in which patients have become addicted to the use of the drug, thus emphatically negating the opinion of Dr. Wm. A. Hammond when he said, at a meeting of the New York Neurological Society, that “he did not believe any dose that could be taken was dangerous.”

Dr. Mattison summarizes the results of his statements as follows:

Cocaine can be toxic, sometimes deadly in large doses.

It may give rise to dangerous or even fatal symptoms in doses usually deemed safe.

The danger, near and remote, is greatest when given under the skin.

It may produce a diseased condition—in which the will is prostrate and the patient powerless—a true toxic neurosis, more marked and less hopeful than that from alcohol or opium.—*Med. Register*, March 12, 1887.

MEDICAL MISSIONARIES.—There are in China seventy medical missionaries to a population of two hundred and eighty millions, being one medical man to every four millions of population. In India it is about the same thing—sixty medical missionaries to two hundred and fifty millions of population, about one to every four millions. Africa has the next largest population, estimated at two hundred millions, and there are some thirty medical missionaries in all Africa.—*Med. Miss. Rec.*, Jan., 1887.

REPORTS ON PROGRESS.

SURGERY.

REPORTED BY PAUL Y. TUPPER, M. D.

Litholapaxy in Male Children.—SURGEON-MAJOR KEEGAN, of Indore, Central India, reports 58 cases of Bigelow's operation in male children between the ages of 21 months and 14 years—one death. Twenty-seven were between the ages of 2 and 5 years; twenty-four were between 6 and 10; and seven between 11 and 14. Time occupied for the operations was from four minutes to three hours. One calculus of oxalate of lime, weighing 700 grains, required twenty-six insertions of the lithotrite. Two-thirds of the calculi were of uric acid, or oxalate of lime.

Keegan says the objections usually urged against crushing in im-pub-er-ic children because of the undeveloped state of the genito-urinary organs are not valid. The undeveloped state of the prostate is an advantage. The calibre of the urethra is not so small as is ordinarily supposed. In the cutting operation a relatively large staff is generally used. The meatus, which is the narrowest part of the urethral canal, needs only to be incised for the passage of a fair-sized lithotrite. Between the ages of 21 and 34 months a No. 7 English instrument was used with ease. A No. 8 was used for patients between three and four years of age, and a No. 10 at five years in five-eighths of the cases. Lithotrites No. 8 and 10 were most used.—*London Lancet*.

Rupture of the Bladder.—SOCIN and KESER report the case of a man, 20 years of age, whose bladder was ruptured by a fall from a tree. Retention of urine, bloody fluid drawn off with catheter, pain on pressure over lower part of abdomen, hiccough and profound depression were the chief symptoms. Laparotomy on the day succeeding the accident. A tear admitting the tip of index finger found in anterior bladder wall. The rupture was extra-peritoneal. The edges of the tear were stitched to the abdominal wall, the space between the bladder and pubes well drained, and the bladder washed

out through the artificial fistula and the urethra. The drainage tube and catheter both removed on the ninth day. Recovery.

The case was complicated by a dislocation at the elbow and a fracture of the radius.

Ovarian Abscess—Peritonitis.—The *British Medical Journal* reports a case of acute peritonitis, resulting from the rupture of an abscess of the ovary, treated and relieved by laparotomy and the removal of the diseased uterine appendages. Seven weeks prior to the operation the patient had been delivered with forceps. On the third day after delivery pain was felt in the left iliac region. For about six weeks this persisted with more or less severity. While nursing the child in bed, a sudden, acute pain was felt low down in the pelvis on the left side. Vomiting and depression ensued and the pain became more general over the lower abdomen. Rupture of an abscess was diagnosed, and on the following day the abdomen was opened. A sero purulent fluid was found in the pelvis. The left appendages, omentum, intestines and uterus were matted together, and the Fallopian tube was thickened and inflamed. In the left ovary was an abscess cavity, from which a thick yellow pus was flowing. The diseased appendages were ligated and removed, the abdomen thoroughly washed out with warm water, and a drainage tube introduced.—Recovery.

Transplanted Tendons.—DR. PEYROT, of Paris, reports to the *Société Médico-Pratique* two cases of transplantation of tendons.

The first case was that of a young man who had received six months before a wound of the middle finger, severing the flexor tendon at the junction of the first and second phalanges. The finger was in a state of forcible extension, threatening posterior luxation. The ends of the severed tendon could not be approximated with sutures. A section of a flexor tendon from a young dog's paw was sutured to the freshened ends of the tendon to be repaired. Good union without suppuration ensued, and the patient was enabled to execute feeble movements of flexion of all the phalanges formerly controlled by the injured tendon.

The other patient was a child with a similar injury, the flexor tendon of the middle finger having been divided at the metacarpophalangeal articulation. The same effort at grafting was made but with no success, the foreign tissue sloughing out entirely.

Iodoform not an Antiseptic.—The *Boston Medical and Surgical Journal* gives editorially a résumé of the late investigations of MM. Heyn and Rovsing, of Copenhagen, regarding the antiseptic properties of iodoform. In a series of plate cultures, iodoform appeared to have no power in retarding the growth of the *staphylococcus aureus pyogenes* or *bacillus subtilis*. Experiments with a mixture of sterilized gelatin and iodoform, with iodoform and olive oil (4 per cent), and with a solution of iodoform in blood-serum, showed an unchecked growth of the above mentioned germs in these media. The *staphylococcus aureus pyogenes* preserved its vitality at least a month in dry iodoform powder; and experiments on two rabbits, where inoculated fluids were prepared with iodoform, gave the same results. All this, they claim, shows that though iodoform may possess other excellent properties, it is not antiseptic. It is hinted that it may even prove dangerous because of the possibility of containing and of conveying to parts to which it is applied certain pathogenic organisms.

Full details accompany the original publication of the experimenters, who recommend that if iodoform is used where aseptic conditions are necessary, it should be disinfected with sublimate as carefully and thoroughly as are sutures, ligatures and instruments.

Transverse Fracture of the Patella.—In the *Annals of Surgery* for March, Wm. Macewen, M. D., of Glasgow, demonstrates the cause of non-osseous union in this fracture, and suggests the means of obviating it. By careful dissection he shows that the aponeurotic covering of the patella is much more dense than is generally supposed, and that in full vigorous adult life, a firm band of ligamentous structure passes over the front of the patella and is continuous with the ligament above and the tendon below.

These fibrous and aponeurotic structures in front of the patella, being more elastic than the bone, stretch after the bone fractures and separate at a different time and on a different level. Into the hiatus, between the now retracted fragments of bone, the torn and elongated shreds of aponeurotic tissue fall, hugging the fractured surfaces and consequently forming a barrier to osseous union. Generally, the lower fractured surfaces are not so covered and consequently a crepitation is sometimes gotten when the fragments are approximated.

Ten patellæ with their aponeurotic coverings were taken from

fresh subjects of different ages, and by careful experiments in fracturing and forcibly separating the fragments, the above disposition of the aponeurotic tissues was clearly shown. Occasionally a transverse fracture occurs without rupture of the prepatellar structures. In such cases, osseous union occurs, if the stretching of the structure is not so great that a fold of the tissues falls down between the fractured surfaces.

The author thinks the only safe method of treating transverse fracture of the patella is by making a longitudinal incision over the joint, cleansing it thoroughly, elevating the interposed aponeurotic tissue, and wiring together the fractured surfaces.

Eight cases are reported as so treated, and osseous union seemed to result in all. The wire, which is silver, is removed after about six weeks.

Three cases of fracture of the olecranon were treated in the same way. In all three cases the aponeurotic tissues were found intervening between the fragments.

Dr. J. D. Rushmore, of Brooklyn, reports through the *N. Y. Med. Journal* of Feb. 12, the result of two post mortem examinations of recently fractured patellæ. In both cases the fracture was evidently caused by muscular action, and was transverse. Separation of fragments about one and one-half inch; clots of blood intervened. The rent in the periosteum in front of the patella was at a lower level than that in the bone itself, was irregularly lacerated, and dropped down like an apron in front of the fractured edge of the upper fragment partially covering the broken surface.

No mention is made of the prepatellar aponeurotic structures in this report.

MEDICINE AND THERAPEUTICS.

Urinary Casts, their Formation and Significance.—WILLIAM H. PORTER in a recent paper says that there are two principal types of casts, the bloods casts and hyaline casts, the latter of which includes a number of modifications, viz., the epithelial, nucleated, finely granular, coarsely granular, fatty, tubular, cork-screw.

The blood cast is simple, and easily understood. It is produced by an exudation of all the constituents of the blood, and a matting together and entanglement of the blood corpuscles by fibrin ele-

ments in the lumen of the uriniferous tubules, so that they are discharged from the tubes in masses, representing perfect casts of the same; they are found in the urine as little plugs of blood corpuscles with parallel sides and rounded ends. This variety is only met with in acute congestion, hemorrhagic infarctions, hematuria, acute diffuse nephritis and acute exacerbations of the chronic diffuse nephritis. The presence of blood casts in the urine is the only positive evidence of hemorrhage from the kidney. Some call the hyaline, with a number of blood corpuscles attached to them, blood casts, but this is erroneous. Blood casts are not common.

The hyaline cast is not so thoroughly understood, but it is generally believed that a peculiar fibrinous substance is thrown out of the blood into the uriniferous tubules, and when discharged from the same, independent of the epithelial cells, it is known as a hyaline cast, but with attached epithelial corpuscles, in various changes of retrograde change, the various forms noted are produced.

A single cast of this variety may be found in urine without indicating any renal lesion. But their continuance in any appreciable number always does.

By an epithelial cast is meant one in which the epithelial corpuscles are attached to or implanted in this hyaline plug, and have been separated from the basement membrane, while still retaining the appearance of renal epithelial cells. Casts of this kind are usually found in the acute parenchymatous metamorphosis, and in the acute diffuse nephritis, or in connection with acute exacerbations.

The nucleated cast is one, in which the protoplasm of the epithelial cells has been obliterated, and only the nuclei can be recognized as they adhere to or are implanted in the hyaline substance. The inability to recognize the protoplasm is caused by the cells becoming infiltrated with fine particles of effete material and the inhibition of an albuminous fluid until everything is indistinct but the nucleus.

This form of cast is met with in the acute parenchymatous and diffuse lesions and acute exacerbations, and indicates a still greater retrograde change than the epithelial cast.

The finely granular cast is one in which the epithelial cells are not only cloudy, but are also infiltrated with fine granular particles, some of which are oil globules of minute size, and others granular detritus probably from incomplete products of tissue metamorphosis drawn from the blood, and in part from the further destruction of the epithelial protoplasm itself.

This form of cast represents a still greater destructive change, and is met with in a well established acute lesion, or in the commencement of a chronic lesion.

The coarsely granular cast is simply one, representing a more advanced degree of the former process, with more abundant and larger fat droplets, and a still greater destruction of the epithelial protoplasm.

This form is met with at the end of an acute lesion, but more frequently indicates a chronic parenchymatous or diffuse lesion.

The fatty cast is one, in which the metamorphic process has almost, if not completely, destroyed the protoplasm of the epithelial corpuscle, which has been replaced by fat droplets of varying sizes, and now easily recognizable as fat. The cast may have a large or small diameter, but usually the former.

This form indicates an advanced stage of the chronic parenchymous or diffuse lesion.

The tubular cast is a rare variety, and is formed by a plug of hyaline matter in the lumen of the uriniferous tubule, and a thin ensheathing layer of the same material behind the epithelial cells, and in this manner the corpuscular elements are detached from the basement membrane and discharged. They appear under the microscope as a perfect ring of epithelial elements. Occasionally the central plug will be observed protruding from one or the other extremity.

This variety may be considered as a curiosity.

The cork screw cast is produced by a twisting of the body of the cast, upon its own axis, so that it resembles the spiral of a cork screw. This opinion is based upon numerous sections of the kidney that show this peculiar arrangement in the straight tubules, some of which have the casts still lodged in them.

Some believe that all forms of casts (the blood, hyaline and tubular excepted), can be, and are frequently formed by the transformation, desquamation, and matting together of the epithelial cells without the aid of or the presence of this fibrinous or hyaline material. This may be the case in a few instances; but in the vast majority the hyaline material forms the basis of all casts. In either case the microscopic appearances are the same.

The peculiar arrangement of the tubular form looks a little as if the hyaline material clogged, so to speak, the protoplasm, and aided in cutting off the nutritive supply and prevented the free

exit of the effete material from behind, thus enabling that which should come through, to push the cells from their attachment to the underlying basement substance. This view of the situation distinctly indicates the necessity of keeping the tubules well washed out in all forms of nephritic disease, in which there is a tendency to the formation of casts.

It is the belief of some, that the hyaline material undergoes degeneration, and in this way they explain the various forms of granular casts. A close examination, however, of a hyaline cast, which appears to be a little granular, will almost always, with a good high power lens, show incomplete and faint outline of what once was an epithelial cell. This tends to sustain the former view, and to disprove the latter.

The waxy cast of some writers is not included in this classification, as its existence is extremely doubtful, and probably never occurs.

It occasionally happens that the various crystals of the urine adhere to these hyaline plugs, or to a cast, and from their parallel sides might be termed crystal casts. They are, however, more likely to be seen in sections made from the kidney itself.

The distinguishing character of all casts, is that they have uniformly parallel sides, and usually at least one rounded end, occasionally the other end is broken at a right angle, or a little irregularly, but they never terminate in imperceptible lines, as is the case with bands or streaks of mucus. Casts and strings of mucus are often confounded; but by remembering the above stated facts, the one should never be mistaken for the other. If the observer will compare the diagrams of casts as seen in the books with specimens of ropy mucus from the bladder, the difference is at once apparent.

Casts are very important aids in diagnosis. They are found in acute and chronic parenchymatous metamorphosis of the kidney, in acute diffuse nephritis, and in the chronic diffuse group. They are rarely found in the sclerotic, gouty and waxy kidney when uncomplicated.

Small casts of the hyaline, epithelial, nuclear and finely granular variety are found in the acute lesions, and in the early stage of the more chronic forms. Large hyaline, coarsely granular and fatty casts indicate an advanced lesion.—*Quart. Bulletin of Clin. Soc. of N. Y. P. G. M. S.*, Oct. '86.

Dietary in Catarrh of the Stomach.—T. A. McBRIDE recommends the following:

I. Milk, cold or warm, bouillon, beef tea prepared cold as follows: To one pound of beef cut up in pieces the size of dice add one pint of distilled water and ten drops of dilute muriatic acid. Let stand in the refrigerator twenty-four hours; strain and season to taste, and if desired, warm, but not enough to make it cloudy. Peptonized milk. Zwiebach not sweetened, crackers, rusk, toast, natural seltzer and Vichy waters, carbonated distilled water.

II. Soft boiled or raw eggs. Rice or sago boiled soft in milk. Clear soups. Purée of potato. Vermicelli or "noodle" soups. Raw oysters. Calves' brains, sweet-bread, pigeons, chicken, calves' feet, boiled, roasted, stewed or broiled. No vegetables except those mentioned to be allowed with soups. No "wheaten grits," hominy, barley nor oat meal.

III. Minced or finely cut boiled ham, or rare beefsteak. Coffee and tea. Articles under I and II as advised.

IV. Rare roasted beef and veal, especially cold. Roasted chicken and pigeons without sauces, especially cold. Venison. Partridges, woodcock and snipe, not too fresh. Boiled fish. White bread (stale). Macaroni. Baked apples. Fruit jellies. A very small amount of butter, otherwise no fats. Only dry wine; no beer; no ale or porter. Rye whiskey or brandy diluted with the waters mentioned may be used with lunch and dinner when pronounced necessary.—*Jour. of Reconstructives*, Oct., '86.

Salicylic Acid and Iron in Rheumatism.—DR. GEO. L. PEABODY uses in the treatment of rheumatism in the New York Hospital, the following combination of salicylic acid and iron, which agrees with the stomach as well as any, and has the advantage of not being followed, if its use be long continued, by the severe anemia that so often follows the use of salicylic acid without iron.

R _x	Acidi salicylici,	-	-	-	gr. xx.
	Ferri pyrophosphatis,	-	-	-	gr. v.
	Sodii phosphatis,	-	-	-	gr. l.
	Aquæ,	-	-	-	℥ss. M.

This dose may be given every two hours until improvement justifies a diminution in the frequency, or until constitutional effects are pronounced.—*Med. News*, Dec. 11, '86.

Whooping-Cough at Fifty-One.—DR. JAMES B. AYER reported to the Boston Society for Medical Improvement, Oct. 11, '86, a case of whooping-cough in a man æt. 51, father of two boys who were affected with that disease. He first had a severe bronchial catarrh involving the whole tract down to the minute bronchi. The paroxysmal cough with the characteristic whoop appeared on the tenth day. He had the disease when eight years old. Though somewhat relieved by inhaling the vapor of cresoline, the paroxysmal cough had continued daily for twelve weeks, and eight weeks later occurred occasionally.—*Boston Med. and Surg. Jour.*, Oct. 21.

Thread Worms in Children.—SIDNEY MARTIN recommends the internal administration of rhubarb for the removal of thread worms which are often found higher up in the bowel than the injections ordinarily used will reach. He has used with success the following formula.

R	Tr. rhei.,	-	-	-	-	m. iiij.
	Magnes. carb.	-	-	-	-	gr. iiij.
	Tr. zingiber.,	-	-	-	-	m. j.
	Aquam.,	-	-	-	-	ad. ʒi. M.

This is to be given twice or three times daily according to the effect upon the bowels. He does not express an opinion as to whether the rhubarb acts as a vermicide or simply sweeps the worms on from the location in the bowel in which they are causing irritation.

It would certainly be an easy matter to make a much more palatable mixture of rhubarb and magnesia than that suggested, and so secure better results in treatment.—*The Practitioner*, Oct. '86.

Yerba Santa as a Vehicle for Quinine.—GEO. A. WOOD claims that in yerba santa is found the best agent for disguising the bitter taste of quinine. He gives the following formula as the result of considerable experimentation by Mr. J. S. McCleary, formerly of Los Angeles, Cal., in the preparation of an elixir for this purpose: Yerba santa, six ounces; orange peel, two ounces; cinnamon, cloves and cardamon seeds, of each three drams; coriander seed, caraway seed, anise seed, and cochineal, of each two drams; glycerine, one pint; alcohol, one half pint; water sufficient to make six pints; white sugar four pounds. Powder, and mix the herbs and seeds. Mix the alcohol and glycerine, with which moisten the powder and

pack in a percolator, and percolate six pints, adding enough water to make the quantity. Dissolve the sugar in the percolate with a gentle heat.

This preparation, he says, will disguise the bitterness of quinine to the extent of about three grains to a dram of the elixir. It is also a pleasant vehicle for carbonate of ammonia and other unpalatable drugs.—*So. Cal. Practitioner*.

Galvanism in the Treatment of Rheumatism.—ROBERTS BARTHOLOW states that valuable results are to be obtained in the treatment of rheumatism by the galvanic current of electricity, best by a combination of various electrical methods, galvanism to the joints and to the cervical sympathetic, with faradization of the weakened muscles and general faradization.

The value of the galvanic current consists in two influences. It being premised that the fluids about a rheumatic joint are strongly acid in reaction, due probably to the presence of an excess of lactic acid, it is claimed that the electrolytic action of the galvanic current when the negative pole is applied over the affected joint, diverts the alkalies of the tissues to this part thus neutralizing the excess of acid. Hence to secure this effect the negative pole of the battery must be kept in contact with the affected joint.

The second influence is that exerted upon the nutrition of the part through the circulation. Onimus affirms that a descending galvanic current promotes the circulation in a part. Bartholow says that this is true only to limited extent. It is true of mild currents of five to ten, or possibly fifteen milliamperes, but ceases to be true when a strong current of thirty to sixty milliamperes is passed. The strong current causes a tetanic condition of the vessels, and thus produces an exsanguine condition of the part acted on. Applying this fact in the treatment of a joint in which rheumatic inflammation has left the vessels in an enlarged and relaxed state with impaired contractility, it follows that mild descending labile applications are called for, i. e., the positive pole or anode is placed above over the course of the principal arteries, and the negative pole is slowly brushed over the affected joint. In this way applied a mild galvanic current (five to fifteen milliamperes) restores the tonicity of the vessels and promotes absorption of effusions.

In addition to these local applications he recommends galvaniza-

tion of the sympathetic system placing the positive pole in the fossa behind the angle of the jaw and the negative on the epigastrium. Thus it is claimed the tone of the vascular system throughout the whole body is increased.

In the faradization of the muscles which have been wasted by the persistent rheumatic inflammation and by the consequent disuse of the limb, he finds the most valuable means of completing the restoration of the affected part.

Therapeutic Value of Vegetable Astringents.—In the *British Medical Journal*, Dec. 4, 1886, is published the report of Dr. Ralph Stockman to the Scientific Grants Committee of the British Medical Association with regard to a series of studies which he had made concerning the action and therapeutic value of vegetable astringents.

With regard to gallic acid, either locally or after absorption into the blood, he says that it evidently exercises no other action than that of a weak inorganic acid, and certainly has no claim to any special action as an astringent. Its only action in this direction is due to the power which it has in common with all acids of diminishing the alkalinity and thereby increasing the coagulability of the blood. Stronger acids, however, will be more effective in this direction than the gallic acid. It has no power to lessen the calibre of the vessels, and, as it does not precipitate albumen, can have no influence on a catarrhal inflammation.

Tannic acid depends for its effect as a local application upon its power of precipitating albumen, the layer of tannate of albumen which is formed acting as a protective to the mucous membrane underneath. As a remote astringent it is without value, unless, possibly, to a very limited degree upon the kidneys.

Glycerine and Malt Cough Mixture.—The editor of the *N. Eng. Med. Mo.*, Dec. 15, 1886, gives the following formula for a cough mixture:

R _x	Maltine, -	-	-	-	-	-	-	3ij.
	Glycerine, -	-	-	-	-	-	-	3j.
	Syr. Tolu,							
	Syr. prun. Virg.,	-	-	-	-	-	aa	3v.
	Syr. ipecac,	-	-	-	-	-	-	3v.
	Syr. scyllæ,	-	-	-	-	-	-	3v.
	Morph. sulph.,	-	-	-	-	-	-	gr. j.
	Ammon. mur.,-	-	-	-	-	-	-	3iiss.

M. Sig. A dessert-spoonful every three or four hours.

Neuralgia Cure.—DR. HENRY G. DAVIS recommends the following mixture for treatment of neuralgia, and says he has never seen a case of pure neuralgia which it would not cure.

R	Tr. cinchonæ comp.,	-	-	-	-	-	℥ij.
	Tr. nucis vomicæ,	-	-	-	-	-	℥ss.
	Morphiæ sulph.,	-	-	-	-	-	gr. ij.

M. Sig. One teaspoonful every three hours.—*Bost. Med. and Surg. Jour.*, Nov. 18, 1886.

Tincture of Iron.—ROBERT G. ECCLES in an article on "Drugs and Digestion" gives the result of numerous careful experiments as to the effect upon digestion of various remedies. He found the tincture of iron to exert the most decided inhibitory effect upon digestion of any of the tinctures, although this is the remedy which more than almost any other has been commonly prescribed with meals. He advises a change in this regard and would administer it between meals, leaving the digestion unimpaired by the medicine in order that anemic patients may receive the fullest value of their food as well as that of the virus.—*N. Y. M. Jour.* Dec, 11. 1886.

Pepsin Prescriptions.—DR. ECCLES in the paper above mentioned states that inquiries made at a number of pharmacies showed a discreditable lack of care on the part of physicians in writing prescriptions. Many of them failing to specify whether a pure or saccharated pepsin was wanted. Of course the therapeutic result would be materially affected by the question whether the pharmacist dispensed a pure pepsin, one grain of which will digest over six hundred grains of albumin in one hour, or a home-made saccharated pepsin, one grain of which would barely digest six grains of albumin in the same time. For the reputation of the profession as well as for our own success in treating disease he would urge careful attention to this matter in prescribing.—*N. Y. Med. Jour.* Dec, 11. 1886.

Sulphate of Quinine.—DR. ECCLES having found that the sulphates are most active inhibitors of digestion says: "Why sulphate of quinine ever came to be so universally prescribed in preference to the much better chloride is hard to tell. The same is true of the sulphate of morphine. In the chloride there is much more of the active principle to the same weight. They are much more soluble in the gastric juice, and they retard digestion less.—*N. Y. Med. Jour.* Dec, 11. 1886.

Hot Baths for Pneumonia.—BENEWOLSKY has adopted a treatment for pneumonia which consists in immersing the lower part of the body as far as the umbilicus for a half hour in a bath at from 41° to 43° C. [105.8° to 109.4° F.]

These baths cause a lowering of the temperature, diminution of the adynamia, and, it appears, a lessening of the pulmonary lesions. It is then under the titles of antithermic, tonic and revulsive that this observer recommends them and has obtained good results.—*Gegenedeinaia Klinist. Gazeta.*—*L' Union Med.* Nov. 9. 1886.

For Toothache.—The following formula is given in *L' Union Médical.* Nov. 16, 1886.

R _x	Ext. opii. alc desic.	-	-	-	-
	Gum camphoræ	-	-	-	-
	Balsami Peruviani aa	-	.	-	0.50
	Mastiche	-	-	-	1.00
	Chloroform	-	-	-	10.00

M. Introduce into the painful tooth a cotton ball saturated with this solution.

DISEASES OF THE NERVOUS SYSTEM.

BY FRANK R. FRY, A. M., M. D.

*Recent Advances in Our Knowledge of Tabes Dorsalis.*¹—It is to be hoped that we are in a measurable distance of the time when the diagnosis of a mere symptom such as ataxia, will not do, but instead we shall be able from the grouping of symptoms to say exactly what parts of the cerebro-spinal system are affected. To a limited extent we are able to do so now. It has been plainly shown by Pick that there is a "cortical" ataxia, a cerebellar ataxia, a spinal ataxia, and a neuritic ataxia (from peripheral neuritis). The name locomotor ataxia may still be used to indicate the spinal form, but it presents a somewhat variable symptomatology. It re-

¹These notes are taken largely from a digest under this title in the last number of *Brain*. Accompanying it are abundant bibliographical references, covering about all the best recent literature of the subject.

mains to be discovered by future investigation the exact parts of the cord affected, and the reasons why the patient should be ataxic where those parts are affected. Erb is not ready to accept either Leyden's sensory theory, Friedreich's motor one, or Strümpell's modification of the two. As disproving the sensory theory, he contrasts two highly ataxic subjects; in one there was great sensory perversion, in the other none. He suggests as the cause of ataxia an affection of that part of the motor tract between the centres of will and the anterior cornua cells, which has to do with the co-ordination of movements.

Spitzka declares the initial lesion to be either in the posterior grey horn, or in that part of the column of Burdach traversed by the minor division of the posterior roots as they reach the level of entry into the grey substance. Accompanying this initial lesion there is a secondary degeneration (a truly systemic lesion) of the columns of Goll and Burdach and the cerebellar tract. The amount of motor ataxia varies with the extent to which the columns of Goll are involved. Affection of the cerebellar tract causes no other symptom than static ataxia. Then is a small triangular area with its base on the periphery of the cord, one side along the inner border of the posterior nerve-root for a short distance (as it runs into the substance of the cord), the remaining side joining the other two, which is affected where there are marked sensory disturbances as pains, hyperesthesia and analgesia. The abolition of the tendon-reflexes is due to disease of the posterior root zones. He has thus far failed to localize the lesions causing disturbances in the tactile sense, or of sexual, bladder, rectal or trophic troubles. Westphal's recent investigations in a measure confirm Spitzka's conclusions. Post-mortem examinations on cases of tabes are few. Careful descriptions of the cord are difficult to make. Still, it will be seen that all the recent literature goes to show that the posterior columns and posterior cornua are a very complex part of the cord and contain many tracts. Only the most careful observation can show what symptoms are connected with what lesions, whether the various strands are affected by a Wallerian degeneration secondary to affections of a primary field, or whether the disease is a diffuse sclerosis, attacking irregularly sometimes one and sometimes another band of nervous tissue in the posterior columns.

Another much discussed point is whether the primary lesion is

a neuritis, a sclerosis of the interstitial tissue, or a disease of the blood vessels. From observations of Schultz, Déjérine, Ribail and others it would seem quite evident that the primary lesion is often, at least, a sclerosis of connective tissue, in some instances, perhaps, having its starting point in a meningitis. Buzzard and Demange have contributed cases seeming to show the vascular origin of this disease. But there is not at present sufficient evidence to lead us to conclude that in a very considerable proportion of cases the initial lesion is of the vessels. Krauss has sought to test the question by investigating the differences in the vessels of tabetic cases and those of secondary degeneration. He could not find facts to warrant the conclusion that the vessels are primarily affected. We think, however, it is safe to say that the belief of vessel-change as the primary anatomical change of tabes is gaining ground. Among the influences which may occasion such a condition, syphilis stands undoubtedly at the head, but rheumatism, gout, chronic alcoholism, malaria, lead-poisoning, may produce like changes, as shown by Duplay, Bartholow and others. The question of the etiology of tabes continues to be of great interest. The part that syphilis plays as an anatomical factor is a theme of warm controversy. A few years ago (1883) Erb reported 100 cases of tabes, in 91 per cent. of which the patients had syphilis. At his clinic only 22.75 per cent of non-tabetic patients had syphilis. Later, Eulenburg and Berger have shown the constant association of the two diseases. Their percentage, however, is not so high as Erb's. Belugon has recently written an extensive paper on the etiology, with elaborate tables. He believes that the existence of tabes and syphilis together is often a coincidence only, because antisyphilitic treatment has no good effects on the tabetic symptoms. He concludes that syphilis is not a frequent cause, but it puts the patient in a condition that makes him likely to be affected by tabes. He regards rheumatism as the most important cause. He thinks sexual excess may be a cause. B. H. Stephan has reached nearly the same conclusions. His reasons are: (1). The almost inappreciable success of antisyphilitic treatment. (2). The lesions in tabes, limited as they are to certain anatomical tracts, in no way correspond with other syphilitic affections of the nervous system. (3). The unreliability of the statistics brought forth. Sexual excess is no longer regarded as an item in etiology of so much importance as

it once was. Landauzy and Ballet mention the importance of rheumatism. Syphilis, excesses, rheumatism and hereditary influence seem to be etiological factors. How much of a one each is cannot be determined until tabes is more exactly defined.

The points of differential diagnosis have been especially studied of late years. Many instances are cited where peripheral neuritis has been mistaken for tabes. The presumption is that this mistake is more frequently made than we have supposed. Cases of mercurial and saturnine ataxia have been reported, also cases of syphilitic gummata and other tumors of the cord producing some of the tabetic symptoms, so as to be mistaken for tabes. A number of authors have reported cases showing the frequent association of this disease with general paralysis of the insane. Many imagine that tabes is one of the easiest diseases to diagnose, but that they are much in error becomes more apparent as we are familiarized with the group of symptoms sought to be comprehended under this name, and the multiplicity of lesions from which these symptoms spring.

An interesting class of symptoms are those of trophic disturbance. Richardière, Hoffman, and Lewis instance cases in which all or many of the teeth fell out. Klinkert mentions the appearance of gray hairs and other pigmentary changes in the area of distribution of the fifth N. Ballet shows that hemiatrophy of the tongue is not very infrequent. A spontaneous subcutaneous rupture of the tendo Achillis is reported in a tabetic patient 59 years of age. The most frequent and important of these, however, are the joint lesions, commonly referred to as Charcot's disease. There has been a great deal of writing and enthusiastic discussion on this point, especially in France and England. The question being whether the joint affection of tabes—arthropathies des ataxiques of Charcot—are lesions peculiar to this disease, or whether they are the result of ordinary arthritis, modified by the disease. The expressed opinions about the matter may be grouped under three heads: First, that the joint-disease is a distinct specific arthropathy, peculiar to locomotor ataxia; second, that it is the same as joint lesions resulting from injuries to nerves or from cerebral hemorrhage; thirdly, that it is ordinary arthritis modified by the conditions of tabes. The majority of French writers on the subject hold the former, the majority of English the latter opinion. The argument in some instances has amounted simply to a quibble, a hair splitting in which

there is a very apparent display of national prejudice. To Americans this is an intolerable nuisance, when detected in the current scientific literature of Europeans.

The writer has recently read an article from Robert Saundby M. D. (*Brit. Med. Rev.* Nov. and Dec. '86,) which contains a very concise and well expressed statement of the modern view of tabes. For this reason portions of it are subjoined: "The causes of locomotor ataxia are not definitely known. It is much more common in man than in woman, and in middle life, from 20 to 30 years of age. It is said to be hereditary. It is certainly associated with a tendency to other nervous diseases, *e. g.* insanity, etc. There is a rare form, hereditary ataxia, attacking many members of the same family, called Friedreich's disease. It is probably due to a different pathology.

The most common complaint made by patients in the premonitory stage is pain. It is very often described as rheumatism, and affects the lower limbs. It is often of a tearing, darting character. A characteristic pain is the girdle pain, a sensation of constriction around the hips, waist or thorax. The patient may also be conscious of altered sensations in the soles of his feet. He may have other abnormal sensations, as of water being poured down one or both of his legs, or scalding or burning in particular areas. He frequently complains of dimness of vision. This is generally the commencement of atrophy of the optic nerves. The bladder and rectum are sluggish, and there is often increased sexual desire. Sometimes there is paroxysmal hemoglobinuria. There may be swelling of one of the large joints, usually the knee, which may terminate by cure, or may go on to absorption of the head of the bone, luxation and deformity. On examining a patient who presents some of these symptoms, we look for three cardinal signs of locomotor ataxia, which have been named after their discoverers. They are given in the order of their frequency: First, Westphal's sign, or loss of the knee-jerk. Second, Romberg's sign, or inability to stand with closed eyes. Third, Argyll-Robertson's sign, or loss of the pupillary reflex to light. To get this last sign, which is the least constant of any, the eyes should be closed and then opened one at a time under a strong light.

There is no special indication for diet, but it should be plain, nutritious and digestible. Antisymphilitic remedies should be thoroughly tried whether there is a history of syphilis or not. When these

remedies fail I use nitrate of silver, one-sixth gr. three times daily. It should not be used more than six weeks at a time."

OTOLOGY.

BY M. D. JONES, M. D., Assistant, Chair of Otology, Post-Graduate School.

Chronic Purulent Otorrhea—Its Nature and Treatment.—DR. BURNETT says: A chronic purulent discharge generally comes from the middle ear. The perforation in the membrane is usually in the lower portion, posterior to or beneath the malleus. In some cases a purulent discharge comes from the external auditory canal, the m. t. remaining imperforate. The causes of otorrhea are chiefly naso-pharyngeal disorders, teething, the exanthemata, plunging the head under cold water, the nasal douche, and the use of the proprietary cures for nasal catarrh. Tuberculosis of the lung is another cause. This form is characterized by slight or no pain, by affecting the posterior and upper parts of the m. t. and by resenting all treatment except the mildest.

It is supposed to be due to reflex inhibition of vaso-motor power in the arterioles of the ear, supplied by the carotid. The irritation which causes this reflex is the diseased lung, and passing by the pneumogastric to the sympathetic system in the neck, inhibits influence over the carotids.

Passive dilatation ensues, and those parts of the ear supplied by it, undergo passive congestion and inflammation of a low grade.

Otorrheas tend to chronicity because of the difficulty in keeping the parts clean, and the improper treatment resorted to. The retention of pus leads to its decomposition and to further disease of the ear. The exposure of the mucous membrane of the middle ear to the atmosphere by means of the perforation, leads to more inflammation.

The impairment of hearing is due to thickening of the mucous membrane covering the ossicles or their joints, or the fenestra of the vestibule and cochlea.

Finally the auditory chain may be broken by destruction of the ossicles and even the internal ear invaded.

In chronic otorrhea warnings are given in the shape of facial pa-

ralysis, violent ear-ache with fever, and mastoiditis. Facial paralysis shows invasion of the upper and back part of the drum cavity, and that meningitis is threatened. Otorrheas are amenable to treatment, and should never be neglected.

In treatment, cleanliness is the first consideration, and is best secured with the syringe. Where perforation in the m. t. is large, the dry treatment is best.

Boric acid, alone or combined with hydrastin, chinolin, calendula, etc., may be used. If powders do not reach the seat of the trouble, solutions of silver or carbolic acid may be applied.

When the perforation is small the tympanic syringe should be used to medicate the part.

The naso-pharynx must receive close attention. *Med. News*, Oct. 30, 1886.

A New Operation for the Radical Cure of Chronic Purulent Inflammation of the Middle Ear Tract.—DR. SEXTON suggests this surgical procedure for those hopeless cases of otorrhea where the conducting apparatus is crippled, and the remnant of Schrapnell's membrane becoming inverted, helps to form a pouch for the retention of pus and debris. By this operation the passage outward from the tympanic cavity is permanently cleared. The first step in the operation is to separate Schrapnell's membrane from the auditory plate and remove the membrana vibrans from the auditory ring.

If the malleus and incus are *in situ*, divide the tendon of the tensor tympani. The chorda tympani nerve is divided where it enters the pyramid, and at its exit into the canal of Huguier.

The long process of the malleus is to be detached from the glenoid fissure. The freed tissues and bones are now removed with the forceps. Often the incus becomes displaced, and must then be removed with the attic scraper.

Polypi and granulations are to be cut away with the scraper. The latter sometimes cause troublesome bleeding, and it is better to give them preparatory treatment.

The disturbance to taste from the division of the chorda tympani gradually disappears. The instruments used in the operations were designed by the writer.—*Trans. Amer. Otological Society*, Nineteenth Annual Meeting.

Chloroform Vapor in Painful Ear Cases.—DR. ROBB speaks of the magical effects following the use of the vapor where the gentlest handling of the auricle causes exquisite pain.

In furunculosis, in diffuse inflammation and in acute trouble of the membrani tympani, the results were excellent. Otalgias and ear-ache from carious teeth yield promptly. Care must be taken that only the vapor and not the chloroform be introduced into the auditory canal, for the latter would prove very irritating.—*British Med. Jour.*, Nov. 27, 1886.

Chronic Suppuration of the Middle Ear—Secondary Phlebitis of the Cerebral Sinuses—Death.—DR. BEARD reports the case of boy æt. eleven, who, when aged three years, had a fall, followed by discharge from right ear.

For four years there were recurrent attacks of otorrhea of both ears. Later a mastoid abscess was opened, with escape of foul pus. A chill, followed by high fever and profuse sweating, set in. There was protrusion of left eyeball and hard swelling over left internal jugular vein. Just before death induration down left side of neck was extensive, the exophthalmos of both eyes considerable, and great edema of the conjunctival membranes.

Consciousness remained to the last. Pupils normal and uniform. No autopsy made.

A singular feature of the case "was the appearance of symptoms relative to morbid processes in the sinuses, first on the side opposite the exciting ear."—*N. Y. Med. Jour.*, Oct. 2, 1886.

SAN FRANCISCO BOARD OF HEALTH.—A new charter is proposed for the city of San Francisco. As at present constituted, the board of health consists of the mayor and four regular physicians appointed by the governor of the state. Under the proposed charter, the board will be appointed by the mayor and will include the president of the board of alderman, three physicians and a master plumber. *The Pacific Medical and Surgical Journal*, March, 1887, criticises the last provision, suggesting as much better the appointment of a competent architect as being an expert on the entire subject of house sanitation, and not simply one department thereof.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting February 17, 1887.

EXFOLIATIVE VAGINITIS.

Dr. Coles.—Mr. President, I have here a specimen of more than ordinary interest, in consequence of its obscure nature and origin, and of the other fact that it must be of exceedingly rare occurrence, since I am unable to find any mention or description of the disease in any of the principal works on the diseases of women. I will first, however, state briefly the history of the case as related by Dr. J. S. Pearson, of Louisiana, Mo., who brought the patient to me in September last.

Mrs. F., æt. about 30, and the mother of several children, was confined about two years since. Some ten or twelve months after confinement the menses reappeared. The flow at every period is quite profuse and lasts for a week or ten days. The patient complains at the same time of pain and a heavy uneasy sensation about the uterus and vagina. After cessation of the menses there is a disagreeable feeling of dryness and itching high up in the vaginal canal. The latter sensation is not intense as in pruritus, but is at times quite marked, and is referred to various points from the vulva to the neck of the womb. The patient presents somewhat of a chlorotic appearance, being thin, pale and decidedly nervous.

The profuse menstrual discharge and other symptoms led Dr. Pearson about a year since to make a physical examination, and, to his surprise, he found it impossible to introduce his finger into the vagina, the entire canal, from the vulva to the uterus being filled by a membranous substance which he described to me as resembling the deposit of diphtheria or croup. It was only after considerable manipulation, aided by the free use of vaseline, that the finger or a small speculum could be introduced. The doctor found the vaginal

portion of the cervix likewise covered with membrane, which so closely resembled the well known exudations found in the throat and trachea that he determined to treat the disease by the application of such local solvents as have been found most effectual in such cases. Of all these he informs me that he found a strong solution of Jensen's pepsin to answer a better purpose than anything else. This agent would dissolve and remove the entire membrane leaving the vagina free and clean. But, in from 36 to 48 hours the membranous deposit reasserted itself. I cannot recall half of the remedies which have been employed in this case, but they include almost everything which would suggest itself to a gentleman of Dr. Pearson's most excellent intelligence. No matter by what agency he has removed the membranous material, it has invariably and promptly returned. During last spring and summer he treated this case both locally and constitutionally, and, as he says, with practically no results. I may add that the local treatment has not been confined to the vagina alone, but the uterine cavity has been freely swabbed with tincture of iodine and other equally efficient remedies.

When I saw this patient in September last the vulva, when viewed externally, presented no abnormal appearance; there was no apparent swelling, congestion or moisture. Upon separating the nymphæ, numerous white patches were discovered occupying the vestibule, inner sides of the nymphæ and ostium vaginæ. When I attempted to pass my finger, there was manifested a considerable sensitiveness of the parts, with some little tendency to vaginismus. The vagina seemed small and corrugated, and was completely filled by a quantity of membranous material, that adjacent to the walls being attached, a large quantity also being detached and lying loose within the canal. To the finger this imparted the sensation of slightly moist, coarse bran. A considerable quantity of this had to be removed and the parts well lubricated with vaseline before the finger could be passed up to the os. The extraordinary dryness and harshness, due to an absence of the natural moisture of the parts, was very pronounced. On introducing the small blade of a Sims' speculum, the cervix and inner vaginal wall was brought fully into view. These parts were entirely covered by membrane, which presented a peculiar, fractured appearance, such as would be apparent if a piece of paper or parchment were painted with a solution of gum arabic or varnish, and then bent in various directions after the application was allowed to dry.

At each line of fracture, the edges of the membrane seemed to be partially detached, with a tendency to curl up. In size the individual pieces of membrane varied, some being quite small while others, especially on the cervix, were as large as the finger nail. This fractured appearance was doubtless due to the mobility of the surface involved, and hence the lines of fracture were less numerous on the cervical surface. The os uteri was literally stuffed full of partially detached flakes of membrane. When this was removed by the forceps there was no evidence of membrane within the cervix or cavity of the uterus. The cavity of the latter organ was a little above the normal depth. The membrane at every point was easily removed by taking hold of the free edge with a pair of dressing forceps. It left a slightly abraded appearance, with a show of blood or colored serum. The abraded surface of the cervix presented a somewhat livid, congested aspect.

The specimen of membrane which I saw is fairly represented in the contents of this bottle, although I was told that at times there are larger collections of membrane in the vagina than when I made the examination. The patient informed me that during menstruation large flakes of membrane are occasionally discharged; she says she has seen them of the size of a half dollar.

This is as accurate a description of this case as I am able to give after having seen it but once. It presented a condition of things which was entirely new to me, and hence I refrained from making any suggestion as to treatment until I could more fully satisfy myself as to the nature of the so-called membrane which characterized it. Was this membrane an exudation, or an exfoliation? Could it be parasitic, or might it not be allied to some form of skin disease, although confined to a mucous membrane? This last query was more particularly suggested to my mind by the fractured appearance of the membrane, which recalled the characteristic features of the well known skin disease ichthyosis.

I submitted this specimen with a full description of the case to Dr. Hardaway, but he was unable to throw any light upon it. It has also been examined microscopically by several experts, and they all agree that it is probably non-parasitic, neither is it exudative in character, but simply an exfoliation of the natural epithelial layer of the parts involved.

Now the question arises, what can be the cause of this peculiar pathological condition, and by what means are we to bring about

such alterative changes in the nutrition of the parts as will result in a permanent cure. I find that nearly every remedy which I have suggested has been already employed by her medical attendant.

It has been suggested to me that a constant current of electricity, properly applied, might so alter the innervation and nutrition of the parts as to procure satisfactory results. I have presented this case in view of its great novelty and obscurity, and with the hope that some of the gentlemen present may be enabled from experience to throw light upon its pathology and treatment. It seems to me to be a subacute or rather chronic form of exfoliative vaginitis.

Dr. McPheeters.—Had this patient been exposed to diphtheria?

Dr. Coles.—She gave no such history.

Dr. Ford.—Might not this case be analogous to these cases of chronic exfoliation from the air passages, chronic laryngitis and bronchitis.

Dr. Coles.—I will say in answer to this that the membrane is rather thinner than you would ordinarily find in a croupous membrane, and besides on microscopical examination, these gentlemen who have examined it, say it is simply the epithelial lining of the parts; there is no exudation such as we find in croup.

Dr. Frank Glasgow.—Something similar to this can be produced by a strong solution of alum kept in contact with the vagina. I recollect seeing a case with Dr. Moses, which I tamponed on account of bleeding, using saturated solution of alum. Dr. Moses will probably recollect that case of carcinoma on 12th. street, which I tamponed for him, using a very strong solution of alum. The membrane, or rather the exfoliated epithelium, resembled very much this presented by Dr. Coles.

Dr. Coles.—I thought when I first passed my finger that some astringents might have been used, but she is a very sensible lady and seems anxious to get well; she is very much disposed to be discouraged. Her husband has spent a great deal of money on her. As I say, she is nervous; I don't know that she is particularly hysterical, but she is very much depressed about her condition. I am informed that marital relations have not existed for over a year.

Dr. McPheeters.—When this exfoliated membrane was removed from the part did it rapidly reappear?

Dr. Coles.—Yes sir, within 24 hours.

Dr. Prewitt.—What was the condition of her general health?

Dr. Coles.—Well, in general health she was chlorotic, pale and thin.

Dr. Prewitt.—Was there a discharge?

Dr. Coles.—No sir. The parts were rather dry.

Dr. Frank Glasgow.—Had she been using any injections for the prevention of conception?

Dr. Coles.—I didn't inquire about that, as sexual intercourse is not practised.

Dr. Prewitt.—That, I take it, from its appearance, is exfoliated epithelium.

Dr. Coles.—That is what these gentlemen say who have examined it with the microscope.

Dr. Prewitt.—Not diphtheritic; a diphtheritic membrane would not present that character; besides that we can hardly conceive of a diphtheritic condition extending over 12 months without blood poisoning taking place, without an offensive discharge; and the character of the membrane and the form of thickened tissue is not such as you would find in diphtheria. It looks very much as the epithelium of the skin would look in a case of elephantiasis.

Dr. Coles.—All who have examined it, say it is simply epithelium.

Dr. Prewitt.—If I were to suggest anything in the way of treatment, I would suggest Fowler's solution.

Dr. Coles.—The doctor gave her that and plenty of it; you can scarcely suggest anything he hasn't tried. The doctor has treated the case most judiciously.

Dr. McPheeters.—The appearance of this membrane you say was not white as in the case of croup or diphtheria, but transparent.

Dr. Coles.—Yes, it was white, but on the cervix there were some edges which looked a little darkish.

Dr. Engelmann.—It is certainly not syphilitic.

Dr. Coles.—I wouldn't think so.

Dr. Engelmann.—A patient came to my department in the Polyclinic for uterine trouble, whom Dr. Glasgow was treating for precisely such a condition of the nose, and in that case it was specific, not ulcerative, but other secondary symptoms existed, and with this condition which I think he first considered croupous, but it was a membrane like this, and when removed by applications it would always recur.

Dr. Boisliniere.—I have seen exactly similar membranes to the

one we have here in membranous dysmenorrhea. You know membranous dysmenorrhea is a disease which we do not meet with frequently; it is extremely difficult to manage and very often almost disheartening to treat, and in spite of the best efforts the membrane will discharge for months at the menstrual period and finally be cured if you persevere long enough. I have a case under my care now, and in this case of membranous dysmenorrhea, the pain during the menstrual period is excessive, a great deal more than in ordinary cases of dysmenorrhea, because the membranes form and line the whole cavity of the uterus. I have now at my office a dozen or more bottles containing casts of the membranous dysmenorrhea; some are perfect casts and others are simply shreds like that.

FLESHY MOLES.

Dr. Frank Glasgow. I will state that this specimen is from a case to which I was called in an emergency. When I was called the patient was almost pulseless. She said that she had no reason to believe that she was pregnant. I gave her a hypodermic injection of atropia and had her keep very quiet. She could retain nothing on her stomach. She is the mother of five children, and had never menstruated but once or twice after the birth of the first child, which I believe is about seven years old; she had become pregnant again almost immediately, or rather while nursing the child. Last February metrorrhagia began and lasted nine weeks. She had been attended by a doctor in this city, a regular physician, but he never made an examination during that whole time, so she states. She was perfectly well during the whole summer, no flow, no leucorrhea, no pains of any kind until November, when hemorrhage began again, and lasted up to about twelve days ago. Dr. Scott had recently taken charge of the case, but in an emergency she sent for me. I made a hasty digital examination, removed a mass of fluid and clotted blood from the vagina, and then tamponed as quickly as possible, as she was flowing freely. The tampon was removed the second day. Dr. Scott then introduced the sound and felt a mass very much like a blood clot in the uterus, which was about four inches in depth. So we made no further examination. The next time Dr. Scott removed the tampon he found this mass in the upper portion of the vagina. We were in doubt before the mass came away as to its nature. There was very little likelihood of its

being malignant, as there had been not the slightest discharge since last spring. It is not possible for a malignant growth to exist so long and attain that size, either sarcoma or carcinoma, and not show itself by a discharge. But I certainly did not think it was the product of conception which this certainly is.

Dr. McPheeters.—Is there any history of pain when that was expelled?

Dr. Glasgow.—There had been previously no pain, and there was little or none when I saw her; certainly no cramp-like pains. When the mass was expelled I was not present.

Dr. McPheeters.—How was it expelled?

Dr. Scott.—It was behind the tampon; when I removed the tampon I found this mass.

Dr. Engelmann.—No sensation of menstruation at all?

Dr. Glasgow.—None at all.

Dr. Boislaniere.—I reported, a good many years ago, a case of a woman in labor, and after the delivery of the child a mass like that was passed which I considered then a case of fleshy mole. These cases have been reported and are not uncommon in the medical literature on the subject.

Dr. Moses, Sr.—About twenty years ago I was called to attend a woman in the full period of pregnancy, expecting to be confined. I staid with her all night when the pains ceased. I visited her the next day, and she had no appearance of pain. I visited her for a month and no appearance of pain. Then she began to gradually diminish in size until the uterus was just above the pubis. She remained *in statu quo* for about five months, after which I met her one day on the street; she was very large and she said she expected to be confined, and I was extremely anxious to attend her under these circumstances. I was called one stormy night and she was delivered of a living child; after an hour she passed a mass exactly like that which has been preserved.

Dr. Engelmann.—Mr. Chairman, I have seen similar specimens, but all much more compressed, much more solid, the longest retained had been *in utero* five months before the symptoms were such as to cause the patient to seek advice. A distinct history of metrorrhagia was given; these moles were much more solid, giving the appearance of placental tissue, firm and compressed, and distinctly showing the structure through the microscope, hence I should certainly take this to be a mole or a blighted ovum in which the chorion is developed to the detriment of other tissue.

HEMORRHAGE FROM AN ABSCESS.

Dr. McPheeters reported a case in which hemorrhage followed the opening of a suppurated submaxillary gland. The patient, a child six months old, after slight fever for several days, was seized with a spasm. Following the spasm an eruption resembling that of scarlet fever made its appearance, but unattended with any throat symptoms whatever. The day following there was another violent and protracted convulsion, lasting some two hours. With the subsidence of the convulsion the eruption entirely disappeared, and well marked brain symptoms supervened. For two weeks the child continued in a semi-comatose state, sleeping a good deal and fretting a good deal when not asleep, with a temperature never to exceed 103° , and rarely reaching 102° ; appetite good and bowels regularly opened. With the view of relieving the brain symptoms small blisters were cautiously applied behind each ear. The second day after, the submaxillary glands of the right side commenced enlarging, and in spite of discutients and other external applications, including poultices, it went on to suppuration in the course of ten days. The presence of pus having been ascertained by the use of a hypodermic syringe as an aspirator, the abscess was evacuated, and its walls completely collapsed after the escape of two-thirds of an ounce of pus. Six or eight hours after the opening, the abscess seemed to be re-filling, but on opening the mouth of the incision there was no discharge. During the following night, seventeen hours after the first opening, I was summoned to see the little patient and found active bleeding from the interior of the abscess, which had evidently been going on unobserved for a considerable length of time, as the cloths and pillow were saturated with blood, showing the loss of a large amount for so young a child. The hemorrhage was readily checked by pressure, though the walls of the abscess subsequently became as much distended—doubtless with blood—as they were before the evacuation of the pus. The little patient died some hours afterward from exhaustion, consequent on the loss of blood. This is the first instance in my experience in which hemorrhage has occurred under such circumstances. There are two sources from which the bleeding in this case may have occurred: first, the ulcerative process may have extended to and perforated one of the blood vessels of the part; or, second, there may have been such a hyperemic condition of the interior of the abscess as to render the granulations of the base and wall preternaturally hemorrhagic; probably the latter is the true explanation.

Following the report of this last case by Dr. McPheeters, Dr. Lemoine related two cases of abscesses in very young children, upon which remarks were made by one or two members, none of which are here given as part of transactions of the meeting; it was near the close of the meeting.

ST. LOUIS MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 7, Dr. Lemen in the chair.

DIPHTHERIA—INTUBATION.

Discussion of Dr. Alleyne's paper was continued as follows: *Dr. Tuholske* simply wished to refer to a former statement in regard to the introduction of the O'Dwyer tube. He had stated that he had introduced it in the case of a little patient with decided relief. He would now state that the relief was not permanent, as the little patient was dead the next morning. In that case it was not difficult to remove the tube, but he had since found considerable difficulty, not in introducing but in removing it, in a live patient, especially in the case of children. The last case in which he had inserted the tube compelled him to come to the conclusion that the rose colored notions that he had were probably not well taken. He believes that it produces a tremendous amount of irritation of the larynx; and that it is much more liable to close up; and had been told by other physicians that this had been their experience. In all cases in which intubation is indicated or in which obstruction is to be relieved temporarily or permanently by mechanical means, the cutting of a hole in the trachea is a safe operation for the patient. He will not put in another O'Dwyer tube; but will lay open the trachea and be able to clean out the tube and watch the patient, and thinks he will have better results.

Dr. Love asked if he based his opinion upon only one case.

Dr. Tuholske said, No! when he examined the first tube after the death of the patient, he found that the lower end of the tube had collected a tremendous amount of mucus that would very soon have closed it up, if the patient had lived a little longer. He removed the tube when the child had died, and there was a tremendous injection all through the trachea. He made a very careful examination, and it looked as if the tube had acted as a local ir-

ritant. He had considered the subject since, and had spoken to other physicians about it, and learned that it was their general experience that where the tube had been used and the patient had died, there had been set up congestion of the lungs. He was convinced that it is much better to make a tracheotomy, which gives more room and better facilities for clearing the trachea.

Dr. Love asked, whether in a case where it was utterly impossible to get the parents to consent to have tracheotomy performed and where it was evident that unless something was done the patient would die of strangulation, he would not make use of the O'Dwyer tube, whether it would not be justifiable to give the patient the benefit of that method of treatment.

Dr. Tuholske supposed that in a case of that kind he would use the tube; but he would put the matter in such a way as to induce them to allow him to perform tracheotomy if that could be done, and would not hold out much inducement for the O'Dwyer tube at any rate.

Dr. Love said that since the last meeting he had had four cases of diphtheria under observation, and the result of his observation of them had strengthened his faith in the plan of treatment with bichloride of mercury as a constitutional measure, and a local application, accompanied by large quantities of water when given internally and in addition large quantities of whiskey. One patient a young miss of 14, delicate, scrofulous, was taken ill about ten days before. She was treated for several days for what was pronounced to be ulcerative sore throat. A week ago he was asked to go immediately to see her, although he was not the regular attendant. On examination he found a very inflamed and edematous condition of the pharyngeal space. This congestion, engorgement and edema extended up to the soft palate and forward onto the hard palate. The uvula was so edematous that every respiration threw it forward onto the tongue, of course offering a mechanical obstruction to breathing, and suffocation was imminent. Applications of burnt alum and sugar had been made to the parts so that it was impossible to tell what was the exact condition, on account of the deposit of alum and sugar. He at once made a puncture with a trocar into the edematous uvula, and finally, as it didn't go down very promptly, snipped off one-half of it, when it gradually collapsed, relieving her considerably. He did not see the case again until the Friday following. Then the entire pharyngeal

space was covered with a well organized, thick, clearly distinct membrane, which extended forward over the hard palate. The engorgement of the glands on the outside and the connective tissue was very great. Her bowels had not moved for four days, Dr. Love secured prompt movement of her bowels by giving good doses of calomel followed by full doses of citrate of magnesia. He then commenced the administration of 1-50 of a grain of bichloride of mercury every hour, with an ounce of whiskey and followed by a glass of water. The patient was depressed, with small, weak and very fast pulse; her condition was very bad. The temperature was only 101°: In six hours the pulse had become full, and was down to 116 or 118. In another six hours, the surfaces were moist, whereas before the entire throat had a dry appearance, almost glazed; the membrane looked as if it would soften easily. By the next day, however, the line of demarcation was distinctly drawn between the membrane and the healthy tissue, indicating that the extension of the membrane was checked. The nostrils were kept thoroughly open by the free use of vaseline with five grains of carbolic acid to the ounce. By noon of next day the membrane was softening down under the continuance of the drug, and the whiskey was still continued every hour. By the evening of the second day a portion of the membrane at least an inch and a half square was thrown off. He then reduced the amount of whiskey to one ounce every two hours. Once or twice the patient, who was unable to speak, wrote that she believed she was surely drunk, and Dr. Love thought she was right. But the pulse remained at about 100, full and strong. After the evening of the second day he reduced the amount of the bichloride to about 1-50th grain every three hours and had kept that up ever since. The membrane was gradually being thrown off, and now the amount of whiskey given was just one half what it was when he commenced the treatment. He believed the case would recover. The second child in the family, there having been no isolation, on the morning of the second day showed on the large glands upon either side, a spot about as large as a quarter of a dollar. Treatment was immediately instituted, and in twelve hours that deposit was softening; and had never increased. The glandular engorgement by the next morning had gone down, and progress had been constantly forward, and the throat was now clean. In that case treatment was instituted early. W. H. Daley claims to have obtained the same result by giving

large doses of calomel. He says give calomel early and often, in large doses, and it acts in the same way.

Dr. Tuholske believes that we are rather too frequently guided in estimates of the value of a form of treatment by comparatively few cases, and that we do not take into sufficient consideration the collateral circumstances in each individual case. In the main he agreed with *Dr. Love* in the treatment of the disease. As he had previously stated (vid. *COURIER* Mar.p. 271) he had for two years been treating all forms of diphtheria, pharyngeal and laryngeal, the little ones and those of more mature age, with benzoate of soda, giving the drug until there was a distinct throwing off of the membrane, giving also a good deal of whiskey and also bichloride of mercury, using in a patient say five years of age, 1-60 of a grain every three hours. He had tried that plan for two years, and some of the patients who seemed to be in very bad condition had all gotten along very nicely; but then he met two or three cases in succession, with whom from the very start he resorted to the same plan of treatment by saturation with benzoate of soda and whiskey and by repeated doses of bichloride of mercury; and he lost those patients. This had taken away from him the confidence that he before had in this plan of treatment. He thought at one time that it was a complete cure for all cases of diphtheria. Furthermore when we get hold of a little patient, say a year or two of age, it is very difficult to pour down their throats these vast quantities of whiskey or milk or any other fluid. They will not take it. It is a very hard thing to get them to take anything. When we get a patient 10, 12 or 14 years of age, they will take the medicines which are prescribed for them. He does not believe in forcing these patients to take the remedies. He does not think it a good idea to drug the child. He has known them to die from heart paralysis when struggling to have their mouths opened.

Dr. Mulhall asked *Dr. Tuholske* if in making tracheotomy he prefers the low or high operation?

Dr. Tuholsken said in young, fat and chubby children he likes to get above the cricoid cartilage, but would always like to go further down if he could do so readily.

Dr. Leete remarked that not very much had been said in respect of *Dr. Alleyne's* favorite treatment, as indicated in the paper which he had read. With almost an apology *Dr. Alleyne* had called attention to what he had used with much satisfaction, viz.,

calomel, he had not stated with much definiteness just how he did use it. When Dr. Leete was a student of medicine in Philadelphia, the then professor of the theory and practice of medicine, the father of the present Dr. Pepper, a very modest, diffident man, reading his lectures from manuscript, rarely looking at his auditors, when he came to the subject of diphtheria, dropped his manuscript, and, looking up, changed his tone to one purely conversational and said in substance about this: "Gentlemen, you may easily meet a physician of this city of limited practice who will say that he has had within the past six months, it may be fifty or one hundred cases of diphtheria, and they all recovered." He continued: "It is very well known in this city that my practice is not limited," (as a matter of fact he probably at that time had the largest general practice and the largest consulting practice of all the physicians in Philadelphia). "I think on an average I have not seen more than six cases of diphtheria in a whole year and I have never seen a larger number in any year, nor have I seen one of them who has recovered." Dr. Leete had found later that the widest diversity of opinion was expressed in books in regard to the real character of diphtheria. Some treat it as a disease of the greatest gravity, and you will easily find a book in which it is stated that it is moderately contagious. As to the treatment of diphtheria, he thought a few things should be kept constantly in mind. We must confess that we are entirely ignorant of the producing cause of diphtheria; but starting with the proposition that it is a systemic, asthenic and contagious disease, and adding that it is characterized by a condition of the system which enables the present hyperplastic condition of the blood to almost certainly indicate its presence by the formation of a true interstitial membrane, we are now in a position to outline a treatment which shall consist in the main of these things. First of all conserve the powers of the patient by putting him as nearly as possible at absolute rest. Let him lie down; the clothing, the surroundings as to what will be agreeable or disagreeable, and the matter of purity and abundance of air should be attended to with scrupulousness. The patient should be fed with the most nutritious food and at such intervals as will seem most proper by reason of the facts in the case. Isolation may with the utmost propriety be insisted upon and every precaution known at this time certainly ought to be taken to prevent the spread of the poison beyond the room which the patient occupies, and so far as possible

beyond the patient. He believes that calomel, has hardly received the estimate to which it is entitled, and that its usefulness can be vastly increased by taking advantage of a further fact, that in the salts of soda and potash are valuable agencies, and that by combining calomel and soda, we have the best means of combating the formation of the membrane in a case of diphtheria. He knew of the following case: one child having died with diphtheria, and the remaining child in the family sickening with the disease, which progressed the wrong way steadily, a consultation was had. The attendant physician raised the question whether an operation for the relief of the patient ought not to be had, and a difference of opinion occurring between the two physicians, Dr. Agnew of Philadelphia was sent for as a second consultant, and he decided very promptly that the case did not promise well for the success of an operation. At this time the membrane was formed in the throat, and it was thought that it even extended into the small bronchial tubes. Dr. Agnew declined to perform tracheotomy, but suggested that this child who was some five or six years of age and who was breathing with the utmost difficulty should be given 1-16th of a grain of calomel followed by 4 or 5 grains of bicarbonate of soda, in a little water every half hour so long as the child could swallow, and giving milk or cream and the white of eggs alternating with as much brandy as could be comfortably taken. This was begun at night. The next morning, some 10 or 12 hours later, the change for the better was simply wonderful. Gradually the membranes were thrown off in shreds, and there was the usual tedious convalescence. The same observer had since informed Dr. Leete that these remedies are his sheet-anchor, and he has become firmly convinced after a long trial that these frequently repeated small doses of calomel followed by bicarbonate of soda is the treatment for diphtheria. This treatment has been pursued somewhat in this city with very satisfactory results. He didn't know of a condition in which good regime is more urgently demanded than in the treatment of diphtheria. It could not be more urgent in septicemia or gangrene. He thought that there was gross carelessness, or even slovenliness in some quarters, in relation to differentiation of diphtheria. He had been taken to see a case of diphtheria because it was considered very interesting. The little one was called in from playing in the yard in rough weather, breathing as well as could be, and

when the child was duly placed in position to show her mouth the physician looked at it, brushed it up, and remarked to the anxious mother that the child was getting along nicely and bowed himself out of the door. Dr. L. was thoroughly satisfied that it was a case of common tonsillitis. Diphtheria never goes around the yard after it has been in existence several days. He didn't believe that any such number of cases of diphtheria had existed in this City as had been reported. In the old Medical Society he had heard recitals of numbers of cases of diphtheria treated by physicians, and it was really astonishing to find the number of these cases and all of them recovered; but a little questioning and cross-questioning served to show that not a single case of so-called diphtheria was in fact that disease. There are physicians who call almost every case of throat disease diphtheria. It is a very insidious disease, but it has characteristics that most generally declare the disease.

Dr. Mulhall asked what they are. .

Dr. Leete said they were numerous. They were not seen perhaps in every case, but he thought there was a wide difference between other diseases of the throat and diphtheria. He had no hesitancy in saying that when there is any doubt as to what the disease is, when it cannot be readily distinguished, the patient should be isolated.

Dr. Love agreed fully with Dr. Leete that there was no question from the reports that many physicians are too liberal in their interpretation of throat troubles as being diphtheria. There was a certain branch of the profession that sees no other class of throat troubles except diphtheria. Then again there were many physicians who were not sufficiently liberal in their interpretation of the disease. At least two cases within a month had come under his observation where physicians of high standing in this city had pronounced cases of throat trouble ulcerative sore throat day after day which soon developed unmistakably into malignant diphtheria and one of them died. When the family physician saw the patient in the morning, he told them that it was all right, there need be no fear, but it died that night at 2 o'clock. In another case the family physician treated it 4 or 5 days, giving the same rosy statement to the family, that there need be no fear, but when the child became seriously ill, upon consultation it was determined that it was unmistakably a case of diphtheria. There were wide-spread membranes which must have been formed several days. Another case

occurred in a family visiting the city. The doctor who was called in stated that there was no reason for alarm, as it was nothing but ulcerative sore throat. After four or five days attention, he told them he was going to leave the city, and the next day another physician was called in and pronounced it unmistakably a case of diphtheria. This case did not die. One physician very prominent in this city, in Dr. Love's presence said, that he believed that diphtheria was diphtheria when the patient died, and when they did not die it was not diphtheria. Dr. Love believed that these physicians were perfectly honest in what they said. He did not believe that a physician would go into a family and play upon the fears of its members by pronouncing a mild case of throat trouble diphtheria when he thought it was not. He believes that there are mild cases of diphtheria and more malignant cases just as we find in scarlet fever. We will have mild cases and severe cases, and the mild cases do not seem like the same disease as the severe ones; they have scarcely any resemblance to each other.

Dr. Mulhall said that this subject was enveloped in darkness. We are not certain as to the method of propagation; we are not certain of the disease when we look at it; and it has only lately been discovered that other affections may cause paralysis simulating that following diphtheria, if not identical with it. It will probably be demonstrated hereafter that we have albuminuria in other membranous forms of disease besides diphtheria, and thus we are left without any distinguishing symptoms to determine diphtheria in a given case. Nothing is absolutely certain in regard to the disease, except possibly when it is followed by paralysis. The most skilful microscopists have not been able to discover any microbes in the blood which would demonstrate the existence of the disease. Microbes are found, it is true; but the same are found in the walls of the heart and in the brain, and although it has been claimed by some that these microbes do determine the existence of diphtheria, there are others in whom we place equal confidence who state that they are not pathognomonic of diphtheria. Cases of diphtheria have been reported by observers in localities where there has not been known to be a case of diphtheria for two years; and the question is how did they originate. We know when it is epidemic here that it is a very easy thing to have a case of very bad sore throat denominated diphtheria. He once made a proposition that no case should be called diphtheria unless there was albuminuria

and multiple paralysis following. He didn't think a single paralysis demonstrated that diphtheria had occurred, because we may have single paralysis in other conditions of throat besides diphtheria.

Dr. Love asked what he considered the causative agent of paralysis and albumen in the urine as a sequel

Dr. Mulhall said he had no opinion on the subject, that he was positively at sea in regard to it.

[The editor of the *COURIER* desires to call attention to one fact in connection with the repeated statements in this discussion to the effect that the prevalence of the disease had been greatly exaggerated. Whatever may be thought of the statements of physicians who report at society meetings or announce to their patients that they have treated a large number of cases all of whom recovered, the same conclusion cannot be drawn with regard to the condition of things when one-fourth to one-third of all the cases reported in the City during the past year have terminated fatally. Vid. editorial on Diphtheria in St Louis, Table IV. p.153 February *COURIER*.

Stated Meeting, December 28, Dr. Lemoine in the chair.

Dr. Ravold read a paper on

PREPARED FOODS FOR CHILDREN, (vide Mar. *COURIER*, p. 213.

Dr. Grindon regarded the subject presented as one of the highest practical importance. As to Dr. Meig's food, he had had no experience with it at all. He wished the doctor had given some of the results a little more thoroughly. He asked what experience others had had in the use of Fairchild's peptonizing powder. In several cases of which he had known there had been a varying success. On theoretical grounds it seemed to him to be an ideal food, but theoretical expectations of physicians have frequently not been realized.

Dr. Frank Glasgow said that he had used Fairchild's preparation three or four times, and invariably found that the child would not take it, whether it would agree with the child or not he could not tell. He had given up using it. *Dr. Ravold* spoke of different foods disagreeing with the children. He himself thought it often the mother's fault that caused the child's sickness. A great many mothers feed the child whatever it cries; they imagine that if it cries it must be for want of food, consequently the digestion

of the child is impaired, and the milk will disagree with it. He thinks this causes probably nine-tenths of all the trouble which is met with in feeding small children. Some years ago he read an article in an English paper reciting how the physician in charge of a children's hospital being called away left the hospital in charge of a matron, giving her directions to feed the children every three hours. She mistook his instructions, feeding them only three times a day; and when he came back, he was surprised to find the children in such good condition, and upon learning that she had been feeding them only three times a day, he came to the conclusion that there was probably some benefit to be derived from this method of attending to the children. All the children need is to have the intestinal canal cleared of all indigestible material and to be properly fed with the mother's milk. Of course, if for some reason it is impossible for the mother to nourish the child, then it will be necessary to find some other food which will serve as a substitute. Pancreatized milk is perhaps the easiest thing to digest, but I think it has been the experience of most physicians that it does not at all times agree with children.

Dr. Grindon asked what it was that the children objected to in the peptonized milk.

Dr. Frank Glasgow replied that most of them were too young to express any sentiment. He simply told the mother to prepare it according to the directions, and it was possible that they prepared it wrong. In the directions for using Fairchild's pancreatic extract nothing is said of boiling the milk. The earlier directions in regard to boiling the milk seemed to him much preferable to the present.

Dr. Love said that the theoretically ideal food for infants is Fairchild's peptogenic milk powder, or humanized milk, which is the term that they have applied to it. The one objection to it is the fact that Mr. Fairchild has not shipped along with each package the requisite amount of care and brains for the proper preparation of the food according to the directions. In fact that is the one great difficulty in the matter of feeding a child with any prepared food. Very often the parents or nurses do not bother themselves sufficiently about the directions to prepare the food as it should be prepared; it is a very difficult matter, indeed, unless we have trained nurses. The preparation of the food according to Fairchild's formula requires great care; if there is a variation in

the degree of heat the taste is affected, and the child may object to taking it. Even in the peptonizing milk for our patients referred to by Dr. Glasgow great care is necessary. He had found these peptogenic tubes very valuable. He had given these foods to parents or nurses, and they had assured him that they had carried out the directions to the letter. He had then asked them to let him go with them into the kitchen and see them carry them out, and usually found that they hadn't carried them out at all. He had time and time again shown them how the food should be prepared. The last time he was in New York he met Mr. Ben Fairchild, and suggested to him that the instructions for the preparation of milk with the peptogenic tubes should be altered so that it could not be so readily mistaken. In a great many instances where Fairchild's peptogenic food was used, he had found good results. As a rule, the sense of taste is not very well developed in young children, and they don't know the change from one food to another. But the great point to bear in mind in regard to this food, as has been suggested by Dr. Glasgow, is the manner of feeding, but in his judgment Dr. J. Lewis Smith is correct when he takes the position in the paper which he has recently written, that the only substitute for mother's milk is some other mother's milk. In that paper he cites his experience in various instances which have come under his observation, and one in particular in a lying-in institution in New York, where they had had very unfortunate results with all sorts of food, and where they finally determined to get wet nurses in all cases where it was possible to do so. Wherever they succeeded in getting wet nurses, the results were favorable, whereas in cases where it was impossible to provide such, the children usually died, and they had special wards for those children who did not have wet nurses, which was dubbed the dying baby ward. He pronounces almost entirely against all the foods in the market. Dr. Love said this had been his experience, and he would always advise that where the mother cannot nurse her baby she should try and get some other mother for it. A recent writer has presented a paper in opposition to wet nurses, but he didn't think his position has been well taken; it is based very largely on moral grounds. The claim that moral conditions, etc., and mental conditions of the mother affect the child, he thinks is largely sentiment and stuff. Of course, it is a fact that we don't know very much about the moral character of the average cow,

and he don't think the moral character is transmitted through the milk very much one way or the other. We may take one child and give it condensed milk properly diluted, and it will do very well, whereas another child will not thrive upon it at all, so that it is necessary to change the food for different infants. In feeding children, as in treating them, there is one very important point always to be borne in mind, and that is attention to details, attention to little things. Things which are looked upon as trivial often have the deepest import and effect upon their well-being. When he had utilized milk peptonized by Fairchild's process in the administration of food per rectum and in a number of instances per vaginam, he had peptonized it to the very fullest degree, because it is not necessary here to avoid the bitter taste, and there are no nerves of taste to reject the disagreeable matters, and the more fully it is peptonized the better and easier it is taken up by the system. Of course where it is administered by the mouth, and the patient is conscious of taste, it is not well to peptonize it to such a full degree, because you will in that case probably have a very valuable food rejected. He looks upon this as a very valuable food and don't know any article of diet that equals it, or from which he has had better results. He has found a great deal of trouble however in the preparation of it, unless he gave personal attention to it. Physicians have sometimes complained that the parents would not go to the trouble, and that they could not get them to understand and appreciate the instructions. He asked them if they had ever made a personal demonstration or shown them how to prepare it, and found that they had not taken that trouble. The truth of the matter is the time is now here when diet is worth all the *materia medica* that we have got, and if we would simply devote ourselves more to cooking schools and cookery, he thinks we would do our patients a great deal of good.

Dr. Tuholske said he didn't wish to speak on the subject of infant feeding, but would like to ask a question in relation to a matter which *Dr. Love* mentioned and which was new to him, and that was the feeding per vaginam. He had never heard of it before, and it seemed to him there would be some physical difficulty about putting food into the vagina and keep it there.

Dr. Love said that some months ago he prepared a paper detailing his experience in the matter of utilizing the vagina for the administration of medicines. He wouldn't advise the administration

of food or medicine by the vagina in cases where there is a hymen present. He don't believe in tampering with this organ, either on the part of doctors in feeding or administering medicines, or on the part of gynecologists. It is only in the rarest instances in the world that a gynecologist is ever justified in reaching for uterine disorders through an unruptured hymen. The moral disturbance and injury done is greater by far than any physical good that can be accomplished. But in the paper referred to he presented cases in his experience extending over two or three years in which the vagina was utilized originally for the administration of medicines. In a case of typho-malarial fever, where the stomach rejected everything, he utilized the rectum for administering medicine, but the rectum soon became intolerant and rejected everything. Realizing that the vagina was more tolerant than the rectum, and thinking it was a good place for medication, he gave quinine and opium in the form of suppositories with very good effect. Some may say there are no absorbents in the vagina, that the mucous membrane was not intended as an absorbent surface, but we all know we have absorption by endosmosis through wood and stone and iron. If you bring a fluid or soluble material in contact with anything that is porous, there is more or less absorption. We have absorption through the skin, we can produce mercurial poisoning by rubbing mercurial ointment upon the surface of the skin, and, of course, there is absorption. We can dilate the pupil by painting the skin with belladonna or rubbing it with an ointment of atropine, and the skin is simply a mucous membrane with an unusual layer of epithelial scales over it and the mucous membrane has only a thin layer of epithelial cells. He had utilized the vagina for producing narcotism in a case of cancer of the stomach where everything was rejected. For artificial alimentation he had used the rectum a great deal in the treatment of disease. Whenever there has been too great irritation he has resorted to the vagina and relieved the rectum. Many times where the stomach has been in a condition unfavorable to the administration of medicines he has given them through the rectum, and he has found that by great care in the administration of the medicine in that way it can be given for many days at a time; but now and then the rectum wants a rest, and then he thinks the vagina, if the condition will permit, may be utilized. He applied the idea as advanced by Duncan Mackenzie in the *British Medical Journal* some months

ago of artificial alimentation by the rectum. This practitioner prepared what he called an artificial stomach, and he kept the food in the rectum at a proper heat, having the tube running through it and connected with the patient's rectum and allowing the food to percolate slowly into the rectum where it was slowly absorbed: he didn't allow a very large amount to pass in at any one time. He himself had made it a rule, even before Duncan Mackenzie's suggestion was presented, to have food administered by the rectum very slowly through a fountain syringe nearly closed off by a clamp, the nozzle of the syringe being introduced into the bowel, previous to which the bowel had been emptied and generally cleansed out with a solution of soda and warm water and then allowing the food to percolate very slowly for perhaps from half to three-quarters of an hour, the food being peptonized so as to facilitate its absorption. If the bowel becomes intolerant he would utilize the vagina in the same way. He elevated the hips, and after introducing the tube and allowing of a slow percolation into the vaginal cavity, he applied a compress with a view of assisting in closing the opening, and after the peptonized food or medicine had been properly deposited, he removed the tube. In this way he had materially aided his patients. He did not claim that the vagina absorbs to any very great extent, but he does believe that its surfaces can be utilized in the prolongation of life and possibly in tiding over a time when the function of the stomach or the power of the rectum to absorb may be again established. At the time this paper was read there was a free discussion of it. One gentleman stated that he didn't believe there was any absorbent power in the vagina, that it didn't amount to anything, but whether that food was absorbed sufficient to prolong life or not, and Dr. Love believed it was, he knew his medicine was absorbed, and if one thing can be absorbed another thing can be, and it is not within the power of any of us to determine exactly how much, or how little, food can be made to assist nature in tiding over times of danger. He believes that there is something in the utilizing of the vagina as a means of medication and alimentation.

Dr. Steele commended the paper. The results contained were valuable, and referred to a class of patients on whom it is difficult to get good results in private practice. A long time since he adopted an artificial food which he got from Meigs and Pepper, which they are very enthusiastic about. He believed he had saved

many lives with it. It is similar to that suggested in this paper. It was water, milk, gelatine, arrow root, cream, a little sugar and he generally advised a little pinch of salt. It may be prepared once a day. The addition of lime water, no doubt, is a valuable suggestion, for often the stomach of the infant is in an acid condition, and lime water will neutralize that. There may be something in Dr. Love's suggestion that what will agree with one child will not agree with another, he had never been disappointed with the food just mentioned. In regard to alimentation through the rectum, that we know is possible. He had had a great deal of experience with it in the case of his own child who had a stricture of the esophagus. He kept her alive with injections per rectum for five weeks, although it was probably not necessary to feed her per rectum for all this length of time, still he preferred to do so as long as he could keep her nourished so and keep down the inflammatory condition of the esophagus. The use of bougies in these cases, is to be avoided as much as possible, especially if any irritation is present; it is better to let the part alone entirely until the inflammation subsides, and then use the bougie. He believes in the nourishment by the rectum in cases where there is stricture of the esophagus or inflammatory trouble of the stomach.

Medicines may be absorbed by the vagina, so that it is altogether probable that some nourishment may be secured by the administration of food per vaginam, but of course it would not be practicable in infants. With peptonized milk he had not been successful. In regard to Fairchild's food he thinks it is the bitter taste which the patients object to. He had tried it in some cases, and they would not take it at all. It may be, as Dr. Love suggests, that there is something wrong in the preparation of it, and just there is the objection to it; it is so difficult to prepare it properly. A doctor cannot always be present. If Mr. Fairchild could be present and prepare the food in each case, it might be all very well, but when we put it in the hands of ignorant mothers or careless nurses we are very apt to get a failure.

Dr. Bremer said he didn't know much about infant feeding. He had given advice copiously in general practice until the necessity came to feed a child of his own. Then he studied the matter a little more deeply, and there was especially one thing which struck him, and that was the feeding on milk from cows fed on dry food, on hay, so-called hay milk. It was in Zurich, in Switzerland, that he

found an institution for the production of hay milk. At first sight it might seem as if hay milk was contrary to nature, since the cows are usually fed on fresh grass, herbs, etc., and when he was advised by some medical friend at Zurich to feed his child on hay milk he did not take kindly to the idea, but the general practice was in favor of that milk, and so he resorted to it, and was really surprised by the results obtained. The cows in this institution in Switzerland were precluded from the possibility of running about and overheating themselves. Besides that they were given just a proper amount of food to keep them in good condition. They were prevented from eating too much and getting too fat, as they will do in the pasture. The cows were allowed just a sufficient amount of exercise to keep them in good trim, and were given the best kind of water. In consequence there was an ideal milk produced, because it was uniform and it seemed to serve the purpose admirably. I have been surprised that a similar institution has not been started in this country. I know that this milk was generally recommended by the physicians at Zurich, and a great physiologist, who was living at that time in Zurich, but who is now removed to another place, was very enthusiastic in praise of the milk.

Dr. Lemoine asked if it changed the reaction of the milk at all?

Dr. Bremer said the reaction is not apt to be so sour as common cow's milk.

Dr. Ravold said that when he was a young man studying medicine, he milked several cows, and used to test the milk nearly every morning, and he found that if the cows were stall fed the milk was invariably acid, if they were fed at large on grass etc., it was, as a rule, alkaline or neutral. As to this peptogenic milk powder, he used it in the beginning of three or four cases for about a week, and it did very well with patients able to pay for it, but after that week the children invariably got a diarrhea.

Dr. Fry said that he had used the tubes of peptonizing powder a great deal, not only in feeding infants but in adults, and he was thoroughly persuaded after careful trial—repeated trials which he persisted in because they were so well spoken of by the profession, that there is a good deal of humbug about the thing. His own experience was confirmed by that of other gentlemen who have used them with equal care. One thing he had noticed was that these tubes, he did not refer to the extractum pancreatis but to the preparation in the tubes which is combined with bicarbonate of

soda alone they say, if used continuously for any considerable length of time, a week or ten days, will in very many cases induce a diarrhea, and he was satisfied that this preparation is the cause of the diarrhea. In three instances in adults after discontinuing it awhile and beginning again, this troublesome diarrhea started again.

Dr. Glasgow asked if that preparation was boiled after being prepared or if it was prepared according to the latest directions.

Dr. Fry replied that in some instances it was boiled and in others it was not. He used all possible care in following out the directions, and for this reason he was persuaded that we shall not realize all that they claim for it.

Dr. Love thought this report of *Dr. Fry's* a very important one. The component parts of these peptogenic tubes are pancreatic extract and bicarbonate of soda, and he was surprised that *Dr. Fry's* results had invariably been failures.

Dr. Fry said that was the invariable result after any continued use of it. He had seen good results from using them for a day or two. They seemed to start the digestive process; but if he attempted to continue them and rely upon them, he invariably had the result reported.

Dr. Hypes.—I have a case that I wish to report, and I think it is a case that is quite unique in medical literature; certainly I have never encountered a parallel one. About a year ago a young boy was brought to my office—I think he was some 13 or 14 years of age—who had sustained a very serious fall when 6 or 7 years old, and was brought to me to be treated for epilepsy. Upon examining his head I found situated in one of the parietal bones a tumor, that seemed to be of an elastic character and it was somewhat raised above the surface. I was unable to determine, at the time, whether or not a fracture had been sustained by the external table or perhaps the internal table or both: it was a matter of some difficulty in consequence of the situation of the tumor and of its peculiar resistance and size. A surgeon of some prominence in this city happened to be in my office on one occasion when the patient was present, and upon examining the patient agreed with me that it was a matter of impossibility to determine positively whether the patient had sustained a fracture of the internal or external table or both. The remarkable point of interest in the case, was the fact that whilst the patient was a victim of convulsive epilepsy, occurring I have no doubt as the result of this injury, the most peculiar feature

was that by pressure upon this tumor, the patient could at will be placed in a condition of epileptic vertigo, the slightest pressure or manipulation would cause this, so much so that on one occasion several medical gentlemen happening to drop into my office during one of the visits of the patient, I told the gentlemen that I could produce these attacks and proceeded to do so. But a more remarkable point of interest in the case, and one which I believe is a practical illustration of a condition about which an immense amount of literature has been written, and I suppose in which all physicians are deeply interested is the fact that the boy had phimosis, quite a tight one, and in attempting to reduce the phimosis, or to withdraw the foreskin, or upon the slightest manipulation of the penis the epileptiform vertigo was immediately developed, so that at the will of the operator epileptiform vertigo could be induced either by handling or manipulating the tumor on the skull, the result of an injury or fall which he had sustained, or a manipulation of the penis in touching or handling the phimosis. Now all of us who have treated epilepsy know the importance of phimosis in these cases, and the first question which I invariably ask in these cases, is if there is such a condition, and of course I always make a personal examination, and if I find a phimosis, although the case may have been treated successfully by other physicians I always recommend that this condition be relieved. I suggested to the father the propriety of a surgical operation. Perhaps the fact that there might have been a fracture of the internal table, and that there might be some bone jutting down upon the dura mater might explain the condition of the patient, and if so, certainly an operation would be justifiable to determine the exact nature of the injury and perhaps in that way relieve the child permanently. The father gave his consent, but he never returned and it is my impression that the suggestion of an operation frightened him away.

PROFESSOR ARLT, the eminent ophthalmologist died March 7. He was retired from the professorship of ophthalmology in the University of Vienna in 1883, having attained well merited distinction not only in his own country but through all the scientific world, by his ability as a practitioner and teacher.

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ORIGINAL ARTICLES.

ON THE NATURE OF THE CHANCROID.

BY W. A. HARDAWAY, M. D., *Professor of Diseases of the Skin in the St. Louis Post-Graduate School of Medicine and in the Missouri Medical College.*

IN view of the recent discussions on the etiology of the chancroid (vide *Jour. Cutan. Dis.*, March and April, 1887) I would beg leave to present, as briefly as may be, the following thoughts on the subject:

For reasons that need not be detailed here,¹ I have long ceased to hold that the chancroid possesses a special virus of its own; on the contrary I believe that the greater number of soft sores owe their existence to purulent inoculation with certain of the products of syphilis.

I think it is a plausible contention that syphilis is a bacterial disease, and that whenever suppuration occurs in its secretions,

1. In a paper read before the American Dermatological Association, September 6, 1877 (*N. Y. Med. Jour.* Dec., 1877), on the relation between the chancre and chancroid, I used substantially the same arguments that will be employed in this article, the only difference being that to-day I attach to them a slightly different pathological significance. The essential point, however, that the chancroid is the result of the inoculation of the products of syphilis is there maintained, as is also the theory that purulence is in some way opposed to virulence.

the micro-organism upon which its contagiousness depends is destroyed, and that when this is inoculated we have as a result a local suppurating sore, incapable of infecting the system. In other words, that for syphilis as well, perhaps, as for some other diseases, purulence is opposed to virulence.

Let us, first, then, examine this position from the standpoint of general pathology.

Wagner,¹ speaking of artificial tuberculosis, says that inoculation appears to succeed better if small quantities of a not too irritant character are employed; while larger quantities and substances more strongly irritant, commonly give rise to stronger inflammation and suppuration, but not to tuberculosis.

Billroth² describes a form of cadaveric poisoning with which there is always suppuration at the point attacked, but in which the trouble remains local. In inoculating small-pox it was deemed necessary, in order to secure the desired effect, to take from a pock which had not commenced to suppurate, as the suppuration destroyed the "taking power."

Any one who has done much vaccinating must have met with cases where normal vaccine has produced acute suppurating sores—vaccinoid, similar to the chancroid—which were worthless for protection, subsequent vaccination proving this, while the same virus in others has run a typical course. When a vaccine vesicle is made to suppurate, the resulting scab is utterly unreliable. Indeed, one of the most satisfactory demonstrations of this pathological law is found in the hard chancre itself. Lancereaux,³ in his chapter on the syphilitic virus, remarks that "purulence is here opposed to virulence; for, as soon as pus appears, the virulent power diminishes, and contagion is often impossible." It would therefore appear that there seems to exist a very striking phenomenon, viz., the relation of purulence to virulence; for let suppuration be sufficiently active, then contagion seems to be well nigh impossible.⁴

1. Manual of General Pathology, p. 455.

2. Surgical Pathology, p. 360.

3. Treatise on Syphilis, p. 210.

4. In ringworm of the scalp, one of the recognized methods of treatment, based upon the observation of what occurs in kerion, is to cause suppuration, and thereby destruction of the parasite.

It may be that suppuration *per se* has nothing to do with the germ destruction, but that the accompanying elevation of temperature is the modifying agent.

It is a well-known fact that the various disease-producing organisms have a definite thermal death point, and that beyond a certain degree of temperature life becomes extinct in them. Thus, for example, the thermal death point of the typhoid bacillus is 132.8°F.; of the comma bacillus of Koch, 125.6° F.; of the bacillus of glanders, 131° F.; of the pneumococcus, 136.4° F.

Of equal interest in this connection is the single-origin theory of variola and vaccinia that has been broached by Warlomont. Many writers on vaccinia,¹ I, among the number, have thought that the horse- and cow-pox were but modifications of small-pox, and have brought forward clinical proofs of this unity.

In my treatise on Vaccination,² I have summarized the various arguments on the question, and conclude with the statement that "it only remains to add that the researches of Pasteur on the attenuation of viruses lend the strongest scientific support to the results of clinical experience." Granting, therefore, as the result of practical observation and experimentation that horse-pox, cow-pox and human variola acknowledge a common *fons et origo mali*, let us turn to M. Warlomont's explanation of this connection.

It is based upon the attenuation of the germ by the difference in the temperature between the horse, the cow and man. The average temperature of man being about 37.5° C., the viruliferous germ in him reaches its highest capacity for systemic infection. The temperature of the horse being 38.25° C., the virus is moderated when inoculated upon his organism, while the temperature of the cow being 39° C., or at least two degrees higher than in man, the virulence of the dis-

1. See address by Sternberg on the Thermal Death-Point of Pathogenic Organisms, editorially reviewed in Philadelphia Med. Times, Feb. 19, 1887.

2. Essentials of Vaccination, 1882, p. 29.

ease is very much depreciated when developed in her, and we cease to produce a malady having the phenomena of small-pox, yet still sufficiently active for protection when transferred to man.

I think, therefore, it may be very plausibly assumed that when elevation of temperature occurs, as in the suppurative process, the germ or virus of certain diseases is destroyed according to the thermal-death point required for that particular organism. Of course, as regards syphilis, I am merely claiming that it is the suppurative process that destroys its pathogenic organism; but whether it is elevation of temperature, which seems most probable, or some chemical or germicidal action of pus, or a merely mechanical washing away, I cannot say; but it is only in some such light that we can understand how the products of syphilis, both, primary and secondary, can be inoculated on virgin soil without producing syphilis. It is only from these points of view that the following well-known series of inoculations may be comprehended¹:

The anonymous physician of the Palatinate inoculated three persons free from syphilis with undoubted syphilitic virus, and the points of puncture at once inflamed; two of them healed after suppurating from 8 to 10 days. In another, pustules with sanious pus appeared in four places two days after the inoculation: on the following day they become confluent, and were accompanied by violent inflammation of the cellular tissue. On the sixth day a slough formed. None of the three cases was followed by constitutional symptoms. In these cases we see that a great degree of inflammation set up in the recipient, active syphilitic virus having been used in the inoculation, was also capable of destroying the system—infesting property of syphilis.

Boeck proved that the syphilitic virus could be inoculated upon virgin soil, and that the resulting ulcers would have the faculty of further inoculability *just as in the*

1. For a full detail of these cases and many more besides, the reader is referred to Baumler's article on Syphilis in Ziemssen's Cyclopaedia, Vol. III, and also to my article on the "Lymphatic Theory of Syphilitic Infection," *N. Y. Med. Jour.*, December, 1877.

chancroid. A woman suffering from chronic eczema was treated by Boeck with inoculations from soft chancres. Upon a relapse of the eczema five years subsequently it was the intention to treat her in the same manner again. But at Boeck's suggestion she was inoculated by Bidentkap with the secretion from a hard chancre. Large *pustules* resulted, with superficial ulceration. The pus from this took in three generations. *General syphilis did not follow.* Baumler accounts for these cases on the supposition that in the first series acute suppuratiodestroyed the syphilitic virus, and in Boeck's case that the secretion used was from a sore which had been made to suppurate from irritation, and that therefore the syphilitic virus was too much diluted to take effect. The following condensed case, likewise reported by Bidentkap, will further support my position; Oline Martinsdatter, who had never had syphilis, was admitted into the hospital for gonorrhea. While there she inoculated herself on the epigastrium with a needle. The matter was taken from the artificial ulcers of a patient who was undergoing syphilization for constitutional disease. These ulcers had been produced many generations back by inoculations from an infecting chancre. An ulcer with a copious discharge was the result, and by spontaneous inoculation another ulcer formed by the side of the old one. This girl was observed repeatedly and for a long period, but she failed to present any symptoms of syphilis. This was in 1862. In 1864 she returned to the hospital with a chancre, which was followed by roseola and other constitutional symptoms. Bumstead, quoting this case in an article published in the *Am. Jour. Med. Sci.*, April 1873, is at a loss to understand how a sore originating in a syphilitic person from inoculations made with a hard chancre fails to produce syphilis in a person free from it. Indeed, there is no plausible explanation of such cases, unless we assume that the acute suppurative process, with, perhaps, the attendant elevated temperature, has entailed destruction of the specific germ of syphilis.

It would occupy too much space to multiply cases that would go to prove that purulent syphilitic secretions make chancroids when inoculated upon virgin soil, and that as a

rule such sores are not followed by systemic infection. It is therefore easy to agree with Hutchinson, when he says that "non-indurated sores are in all probability due to the contagion of syphilitic pus, secreted by syphilitic sores, but not containing the virus": and also with R. W. Taylor, who has recently declared that he is "of opinion that what we call virulent chancroid generally originates in pus from syphilitic subjects." Mr. Hutchinson goes so far in the direction I have indicated, as to say that so far as he can see "all *a priori* possibility favors the suggestion that non-indurated sores are changed in character either by the inflammatory process, or by the non-susceptibility of the tissues of the recipient." It is known that Michaelis, a unicist, maintained the view that suppuration destroyed the syphilitic virus, and Neumann, it will be remembered, endorses this explanation. That some soft sores are followed by general syphilis must, I think, be practically admitted, but the probable explanation lies in the fact that in such cases the syphilitic germs were not wholly destroyed.

I think it also must be acknowledged that simple pus, having no specific relationships whatever, may give rise to genital ulcers, but nevertheless that the true virulent chancroid has a syphilitic heredity.

My conclusions, therefore, may be summarized as follows:

1. That syphilis is a germ disease.
2. That the virulent chancroid is due to inoculation with purulent secretions from syphilitic subjects; and that, when thus inoculated upon virgin soil, syphilis would inevitably ensue if the germ upon which its contagiousness depends did not, in some way, suffer destruction by the suppurative process probably by the accompanying elevated temperature¹.

1. It may be that the failure to inoculate syphilis upon the lower animals is due to a difference of temperature between them and man, offering an analogy to that which occurs, according to Warlomont, when variola is transplanted to the horse and cow.

THE POLAR METHOD OF ELECTRO-THERAPY IN GYNECOLOGY: APPLICATION, DOSAGE AND MEDICATION.¹

BY GEO. J. ENGELMANN, M. D.

[Abstract of Paper Read before the St. Louis Medico-Chirurgical Society.]

I SHALL treat of those points which are of more general interest and of practical importance.

I. Essentials for the successful use of electricity in gynecological practice.

II. Manner of application, electrodes and instruments to be used.

III. Measurement and dosage.

IV. The method of applying medicinal agents or electro-medication.

Electro-therapy in gynecological practice is making rapid progress since practitioners have learned to distinguish between electricity as applied in surgery, in medicine, in neurology and gynecology; and since gynecologists have begun to develop this powerful agent for their especial purposes in this branch of medicine. The conditions for the application of electricity are moreover peculiarly favorable in the female pelvic viscera.

First. The current can be confined to the part under treatment, as all the organs are gathered within the narrow and circumscribed limits of the pelvis.

Second. The diseased organs or morbid products can be reached directly by the electrode.

Third. The low electrical sensibility of the part makes the use of strong currents possible, the skin, an electrically sensitive part, is not necessarily involved, and if so, only at the site of the indifferent or dispersing pole; as this is the abdomen, the current can be dispersed to any desired extent. The active electrode need never be in contact with the skin, and, however strong the current, the active intra-pelvic pole need cause no pain.

¹ Appeared in full in "Medical News," of Philadelphia, May 16, 21 and 28, 1887.

Fourth. The polar method can, by reason of the situation of the parts, be successfully applied and fully utilized, and by this method only are speedy results possible in gynecological practice.

I.

ESSENTIALS FOR THE PROPER APPLICATION OF ELECTRICITY IN GYNECOLOGICAL PRACTICE.

a. Localization of the current.

The current must be localized and its effects confined, as far as possible, to the diseased organ or part.

b. The use of one active pole.

One pole exclusively, chosen for its peculiar properties, must serve as the active agent for the application of the current, and upon this its entire effect is concentrated. This is termed the active pole.

c. The dispersing of the current.

The current at the other pole must be neutralized as much as possible, and its effect rendered as little as possible perceptible. To accomplish this it is dispersed upon as large a surface as the configuration of the part will permit. Hence the dispersing electrode is always used in connection with the indifferent or neutral pole.

d. The active pole should be directly in contact with the organ or the part to be acted upon, if not within its tissue.

e. The indifferent or dispersing pole should be opposite to the active pole, so as to confine the tissues to be affected between their surfaces. It must be as near as possible to the diseased part, and upon the largest and least sensitive surface which can be utilized.

f. Use of effective currents.

Currents of sufficient strength to accomplish the object desired in the shortest possible time, without detriment to the patient, should be used.

The intensity of the current used in gynecological practice varies from +1 m. a. to 250 m. a. Of most general use is a current from 20 to 80 m. a.

It must be remembered that I am not hereby urging the use

of a current as strong as possible; but of currents strong enough to be effective; strong enough to accomplish the result in the shortest possible time; whilst a current of one or two m. a. will relieve the pain of a contusion, twenty m. a. will aggravate it. The intensity must be commensurate with the object in view.

g. Precision of dose and measure.

Knowledge of the force used and exactness in dosing it are a *sine qua non* to the effective application of electricity.

h. The use of proper instruments is as necessary to the electro-therapeutist as it is to the surgeon. The battery by which force is generated, is useless without proper means of dosing and applying it. The milliampère meter, suitable electrodes for the application of the current at the active pole, and for its dispersion at the indifferent pole, are fundamental requirements to successful electro-therapy. Upon the acquisition of these aids, the recent progress in gynecological electro-therapeutics is based.

i. Recognition and proper use of various qualities of the electrical current.

The following are the most important factors by which the properties of electricity are changed, and upon which its varying medicinal effects depend:

The galvanic current varies with

Intensity, dependent upon the number of elements.

The pole, negative, alkaline, fluidifying, stimulating.
positive, acid, coagulating, sedative.

The time of use.

The constancy.

The size, shape and material of the electrodes:

metallic for chemical effect;

moist, non-metallic for distribution and penetration.

The faradic varies with

The intensity, determined by the distance between primary and secondary coil; influenced less by electro-motive force of generating elements.

The pole. A slight difference; the negative more irritating and painful; the positive less painful, more serviceable for deep applications.

Time of use.

The number and length of interruptions.

Method of increase and decrease.

Size, shape and material of electrodes. Metallic for irritation; moist, non-metallic, for penetration.

Length and thickness of wire for secondary coil. High tension, effect on nerves, by long secondary coil of fine wire; quality and low tension, muscular effect, by short coil of heavy wire.

Primary current more penetrating, with metallic electrode; secondary current more penetrating, with moist, non-metallic electrode.

The therapeutic effects developed by the various properties of the current so changed are numerous, and electricity may be applied to serve as a sedative, stimulant, counter-irritant and vesicant, muscular contractor, anti-spasmodic, tonic, promotor of development, absorbent, chemical cautery, coagulator, electrolytic, hemostatic, promotor of hemorrhage, congestor and medicator.

II.

MANNER OF APPLICATION, ELECTRODES AND INSTRUMENTS TO BE USED.

The choice of the battery must be left to the individual to suit his convenience, taste and pocket. All medical batteries in the market are serviceable, each having its particular advantages and disadvantages. For a cabinet battery, or for stationary purposes, however, a dip battery should not be used. I prefer some of the latest forms of Leclanché element, best the Gonda, a prism cell.

The most important accessory instrument necessary to the gynecologist is the milliampère meter: for general purposes measuring from 1 to 100 m. a.; for special work, from 1 to 250 or 300 m. a. As the demand for this hitherto unused instrument increases, it will become more common, more accurate and less expensive. The current selector I need not mention, as no battery is made nowadays without one, and it is all important that we have this means of gradual increase of the current, element by element, which I deem of more general utility, more

simple, and almost as gentle as the rheostat; the wire rheostat to measure resistance, the metronome to break the current, the rheotome to change the current, the water rheostat to interpose resistance, or increase or decrease the current without even the slight jar caused by the insertion of a single element, are not necessary for ordinary work; but these, like the coulomb-metre, to measure the quantity of electricity, the volt-meter to measure the electro-motive force of the cells used, and the ampère-metre to measure their ampère capacity, are all demanded for progressive, scientific investigation, not, however, for the ordinary medical application.

The electrode, the most simple of all the accessories, and, on account of its very simplicity, the most neglected, is as important as the battery itself. I blame that despicable sponge electrode in part for the neglect into which electro-therapeutics have fallen in this country. Every battery was supplied with two of these abominations, and as the practitioner soon found that he could not accomplish much with them, he thought electricity useless, and put aside the battery. The sponge electrode is a filthy, current-absorbing instrument, which must be cast aside. If a small electrode is wanted, the metal plate can be used, covered with absorbent cotton, soaked in warm water. This offers much less resistance than the sponge, is renewed without trouble for each patient, and in every sense of the word is an improvement upon the former.

The dispersing electrode is one of the important features: electrodes for various purposes for use in connection with what I call the active pole have been devised in numerous forms, to suit the location in which they were to be used—throat, uterus or bladder; but where any but the mildest currents are to be used, these are ineffective, unless the current at the indifferent pole is sufficiently dispersed. Only by rendering the neutral pole painless, by dispersing the current sufficiently at this pole to render it indifferent, can the other active pole be properly utilized. For this purpose we must have an electrode of large surface and of good conducting material, so that the resistance it offers is reduced to a minimum. The more intense the effect desired from the active pole, the larger must be the surface for

its dispersion at the indifferent pole. The larger the indifferent electrode and the more perfect its conducting power the better; its size is limited by the surface to which it is applied, and for gynecological purposes three sizes are desirable: No. 1, $6\frac{1}{2}$ inches by $9\frac{1}{4}$, 58 square inches of surface; No. 2, $4\frac{1}{2}$ by $6\frac{1}{2}$, 28 square inches; No. 3, $3\frac{1}{2}$ by $4\frac{1}{2}$, 15 square inches.

No. 3 is used with mild currents and is preferable, as it is easily placed without disturbing the clothing, even under the corset. This should not be used with a current of over 15 or 20 m. a., (in gynecological practice with the average resistance of 200 to 300 ohms).

No. 2 is still readily manipulated, though not so easily shifted from side to side, and must be used with a current from 20 to 60 m. a.

No. 1 is necessary for intensities above 60 m. a., if the current is to be applied without feeling pain; to place this the clothing must be loosened.

These three sizes will generally suffice, although I have used in addition No. 0, 8 by 10 inches, for the application of very high intensities in electrolysis, and No. 5 for cutaneous faradization, round, two inches in diameter, like the old sponge electrode. I would urge these dimensions for general adoption in order that uniformity, which is desirable to an understanding, may be attained.

The electrode consists of a pliable sheet of metal leaf, perforated with holes one line in diameter, one inch apart, and is covered with a layer of punk or absorbent cotton, which is held in place by a thin buck-skin. This electrode conducts well, and is in every way serviceable; it should be soaked in hot water, the superabundance only is expressed before it is placed, the water to be as hot as is comfortably borne by the patient. Cold water must be avoided, as it lessens the conducting power of the electrode, offers greater resistance, does not saturate the epidermis rapidly, and may even endanger the patient. Salt must be avoided; it is not necessary as it was with the poorly conducting sponge electrode, and if currents of high intensity are applied, their electrolytic action decomposes the salt, and the chlorine developed at the positive pole may give pain to the patient, and will injure the instrument. The shape of the electrode used with

the active pole varies greatly with the object for which it is applied, and in gynecological practice we have many: larger and smaller for the uterine cavity; round and oval ball electrodes for the vagina; instruments for the bladder and rectum, the stylet for the puncture of fibroids; the strong needle for the electrolysis of smaller growths, and puncture of the indurated uterine tissue. Steel instruments will answer unless the metallic electrode is used in connection with the positive pole. Under these conditions a non-corrodable metal must be used; platinum is preferable; a gold plated instrument is, for a time, serviceable.

III.

DOSE AND MEASURE.

For proper dosing of the galvanic current, I have insisted upon,

1. The milliampère intensity of the current.
2. Time of application by which the quantity of electricity is determined.
3. The square surface of the dispersing electrode, for the recording of density when desired.

Other measures by which all details of the application are recorded, for precision in scientific research, though not necessary for simple treatment, are,

1. The resistance of the tissues and electrodes in ohms.
2. The density of the current.
3. The quantity of electricity used as expresses in coulombs.
5. The electro-motive force of the electrode used in volts.
6. The ampère capacity of the elements used in ampères.

FARADISM.

1. Strength of current by distance between primary and secondary coil.
2. Time of application.
3. Number of interruptions.
4. The size, shape and material of the electrode.
5. Tension and quality of the current as determined by the length and thickness of the wire in the secondary coil.

For a more exact record of all conditions we may add:

1. Resistance of tissues and electrodes in ohms.
2. The electro-motive force of the elements used in developing the current, and their ampère capacity in ampères.

The galvanic current, thanks to its commercial value, can now be measured and dosed with the utmost precision; and all of its practically important characteristics can be more accurately recorded than those of any other medicinal agent. For all practical purposes, I am speaking only of the application of galvanism by the polar method in gynecological practice, we should not only know the intensity of the current in milliamperes, but the time of the application and the site, nature and size of the electrodes. The only precise measure applicable to faradic electricity is the electro-motive force and ampère capacity of the generating elements; but these affect the therapeutic result too little to be considered in dosage. They are recorded only for scientific purposes, and for purposes of medicinal dosage we must as yet content ourselves with a rehearsal of the conditions by which the effect of the faradic current is determined, and as all instruments vary, no understanding or uniformity can be achieved until standard instruments are made. One of the most important features of the faradic current is its tension and quality as varied by the nature of the secondary coil, the length and thickness of the wire of which it consists. We have no means of utilizing this, because each instrument is supplied with but a single coil, so that it serves only for a certain series of cases, and the exact character of this coil is not even known to the operator as a rule.

IV.

ELECTRO-MEDICATION.

Electricity has proven so valuable in gynecological treatment; it has served for the relief of affections which could not be reached by other means, and in disorders which we have been unable to treat successfully heretofore; it has proven more simple, more certain, and more rapid in its action than remedies hitherto used. I have *checked hemorrhage* in the uterus post-partum by the contractile action of faradism in desperate cases.

and by two applications brought about the menses which had ceased for a twelve-month. I have destroyed intra-uterine tumors as large as a hen's egg in *three sittings of five minutes each*; I have completely relieved the distressing symptoms of congestion, gastritis, dysuria and constipation in a patient suffering from a large abdominal tumor, and *reduced its circumference five inches by five consecutive daily treatments of eight or ten minutes each*. I have dispersed a painful swelling, due to the contusion of a joint, which had for three weeks resisted treatment, by a single mild application of faradism, and relieved the pain of articular rheumatism which opiates could no longer control; I have relieved aneurism and destroyed angioma by the coagulating action of the positive pole, and increased the flow of blood from indurated hyperplastic uteri by the fluidifying action of the negative pole. A prolapse with edema of the leg was relieved, and the patient, who had not walked for twenty years, was enabled to walk as well as any one of her age, and with perfect comfort; a stenosis of the uterine canal which caused agonizing suffering was relieved in two sittings of five minutes each, and permanently overcome by six or seven more. The most obstinate pruritus, which had long resisted treatment, was cured by one application. Constipation and dysuria have been repeatedly relieved, after resisting the usual remedies. We have recently discharged a poor girl who came to the clinic two months ago partially disabled from a solid pelvic effusion which had the appearance of a fibroid rather than of an inflammatory product, filling the pelvic cavity and displacing the uterus, wedging the cervix in between the effusion and the symphysis. In twelve treatments of five minutes each by electro-cauterization with from 60 to 100 m. a., the complete dispersion of this mass was brought about. In other cases I have caused solid effusions larger than a child's head to completely disappear in from ten to twenty sittings: one was a case of over 12 years' standing, in which the diagnosis had been made ten years ago by Meigs of Philadelphia.

Such are the results which may be obtained from the proper use of the polar method, and which have been made possible by the use of strong and effective currents and their localization.

More still can be accomplished. In my first paper on electricity in gynecology, read before the American gynecological Society in September, 1886, I treated of electricity as a nerve sedative, a stimulant, a muscular contractor and anti-spasmodic, an antiphlogistic and counter-irritant; a vesicant, tonic and promotor of development; an absorbent, chemical cautery and escharotic; an electrolytic, hemostatic, a decongestor and promotor of hemorrhage and congestion. It has other properties as well. Since then I have utilized it as a medicator, and although I have not as yet attained any very remarkable practical results, this property of the electric current is one so peculiar that it deserves recognition.

I have termed electro-medication this method of medication by the nascent ions of a metalloid. By the electro-chemical action of the battery water is resolved into its components, H and O. Bromide of potassium, iodide of potassium, muriate of ammonia and chloride of sodium respond in a similar manner. While the electro-positive bases are set free at the negative pole, the electro-negative metalloids, bromine, iodine and chlorine are found at the positive pole. I will speak merely of bromine, iodine and chlorine as types, powerful gases, especially active in their nascent state, in which they are brought in contact with the tissues in electro-medication. I shall not here treat of the possibility of conducting the metalloid into, and through, the tissues; but merely of its effect upon the tissues in contact with the pole at which it is set free.

If we place the positive and negative pole of a galvanic battery, armed each with a platinum needle, into a glass filled with a solution of iodide of potassium and starch, we will at once see the bubbles of hydrogen rising at the negative needle, and the fluid about the positive pole turning blue from the action of the developing iodine on the starch. In like manner is iodine set free at the positive pole when in contact with the tissues.

Saturated solutions must be used and prepared at the time, as solutions which have been standing long are not serviceable on account of chemical changes which take place. Platinum should be used as a carrier, as much of the nascent metalloid is taken up by the instruments and lost to the tissues, if the electrode be

of susceptible metal; the stronger the current the more rapid, the development.

The positive pole must be the active pole, and must carry the solution in contact with the tissue to be acted upon.

The negative must be the dispersing pole.

These applications are admissible only in cases in which galvanism is not counter-indicated.

They can be made most effective in locations in which greater quantities of the fluid can be applied, as in the vagina or in the uterus, and on the abdomen, where large electrodes can be placed.

These applications may be made directly for the purpose of medicating the diseased surface, or as an addition to the proper application of the electric current, as indicated in the case. Thus in making a vagino-abdominal application of galvanism for the purpose of absorption in diffuse parametritis, we obtain precisely the same effect from the electric current, whether we use an abdominal plate saturated with water, or with iodide of potash, but in the latter case we assist its action by developing iodine.

Iodine may be applied in case of cellulitis by the usual vagino-abdominal application:

a. With the positive dispersing electrode saturated with iodide of potash over the diseased site, and the negative cotton covered ball electrode in the vagina.

b. With the vaginal ball electrode covered with absorbent cotton, saturated with iodide of potash, in the vagina, and the negative dispersing plate on the abdomen. In this case the vagina can be filled with fluid, and a very effective action so produced.

c. In case of hyperplasia and metritis, a saturated solution of iodide of potash is applied to the cavity, and after the tissues are moistened with this a delicate applicator, best of platinum, armed as for medicinal applications with absorbent cotton, and saturated with the solution, placed in the cavity and is connected with the positive pole, the dispersing plate being the negative pole. The current should be of such strength as it would be if used merely for its proper effect, but if this is less than thirty or forty m. a., the application should be prolonged

six, eight or ten minutes in order to permit a sufficient development of the iodine to be effective.

Bromine, a powerful cautery and antiseptic, is useful in endometritis with profuse secretion or offensive discharge, and as an application to the cervix, when the action of that remedy is desired as an antiseptic, deodorizer or cautery.

Chlorine may likewise be used.

These elements in their nascent state are indicated when a diffuse and general action is desired, and when the necessary accompaniment of this method of application, the galvanic current, will further the treatment.

Let it be remembered that fresh saturated solutions must be used, and that it is at the positive pole that the metalloid is set free. Now and then operators have claimed to have carried iodine into tumors and into pelvic effusions by this means. I myself have only attained negative results in my attempts to develop this method of interstitial medication, which would prove the turning point of local applications if it could really be accomplished. As I have only negative results, I will not discuss this subject at present, and will confine myself to what I have found feasible, *localized electro-medication* by gaseous elements in their most effective state, when *nascent*.

I have been greatly gratified by the ready acceptance of suggestions made, and more than pleased by the results of my efforts to establish the galvanometer, the use of effective currents and the large dispersing plate for the indifferent pole, and for electro medication I also bespeak a kindly reception.

I have not fully developed this method of electro-medication, but now present to you the outlines and the fundamental principles of a method which I believe to be susceptible of development, and this I hope that it will receive at the hands of one of our active workers who is interested in the success of electro-therapy.

BORACIC ACID IN THE TREATMENT OF LEUCORRHEA.

BY N. F. SCHWARTZ, M. D., CANAL DOVER, OHIO.

For months past I have made frequent use of boracic acid in the treatment of leucorrhœa in a manner hitherto unmentioned, at least so far as has come under my notice, and with surprising success: in every case where I employed it prompt and permanent improvement resulted.

Having had some excellent results from the boracic acid packing in chronic suppurative otitis, I determined to resort to its use in a similar way in a case of leucorrhœa which had for several months resisted a most persevering use of the regular orthodox remedies, *i. e.*, nitrate of silver, tincture of iodine, fluid hydrastis and bismuth, hot water irrigations, etc. The experiment was eminently successful, and the patient returned home within a fortnight well and happy, and has so remained ever since, many months, during which time I have had occasion to resort to the remedy frequently and with uniformly good results.

My manner of using it is as follows: Having first irrigated the vagina with water at as high a temperature as can well be borne by patient, a cylindrical speculum is introduced and the vaginal walls very carefully dried, first with a soft sponge and then with absorbent cotton. This done, boracic acid in crystals is poured into the mouth of the speculum and pushed up against the uterus and vault of the vagina with a clean cork caught in a uterine sponge carrier, sufficient acid being used to surround and bury the intravaginal portion of cervix, filling the upper part of vagina. A tampon of absorbent cotton is then firmly pressed against the packing and held *in situ* until the folds of the vaginal walls close over it as the speculum is withdrawn.

This should be allowed to remain three or four days or even longer, as after this time there still remain some undissolved particles of the acid, nor will the tampon seem at all offensive. The ostium vaginæ, if examined in twenty-four hours, instead of being besmeared with the leucorrhœal secretion or discharge, presents a clean appearance, and bathed in a watery fluid which be-

gins to appear several hours after the packing has been placed, and in my cases this was the only discharge noticed afterward.

However, a second or even a third repetition may be necessary, but in none of my cases, numbering nearly a score, have I found more than a second packing called for, and in many one sufficed; and in no instance has its use occasioned pain, not even inconvenience.

I do not claim for this agent and method infallibility, nor should constitutional dyscrasias be ignored and this local treatment be depended on unaided to effect a cure, but here, as in the treatment of leucorrhea by other remedies, a proper association of all means having a curative influence upon the disease constitutes the rational therapeutics.

My individual experience with this remedy in the treatment of leucorrhea, though limited to too few cases to establish its universal efficacy, if such a wide range of power can be claimed for any medicine at any time, none the less proves it as one of the agents which, when properly employed, promises much in the treatment of the annoying and sometimes intractable conditions constituting the pathology of leucorrhea, particularly when the change is in the vaginal glands or mucous membrane or from intra-cervical inflammation.

Nor will harm likely result from its use, though it fail in maintaining the place my experience would give it.

TREATMENT OF ACUTE COEYZA.—Dr. F. Knickerbocker says that any remedy that will remove the congestion, will remove the swelling, discharge and all symptoms of a cold.

Atropia he says, will afford very prompt relief. One-sixtieth of a grain given in the stage of frequent sneezing and beginning of the watery discharge will soon remove all obstruction from the nares. The effect should be kept up for twenty-four to thirty-six hours.

The following snuff also he uses as soothing the irritated membrane, excluding the air and constricting the arterioles.

R	Morphiæ sulph.,	-	-	-	-	-	gr. $\frac{1}{4}$ — $\frac{1}{2}$
	Cocain hydrochlorat,	-	-	-	-	-	grs. iij,
	Bismuth subnit.,	-	-	-	-	-	grs. v.
	Pulv. acaciæ,	-	-	.	.	.	grs. v.

M. et trit. Sig. Use as a snuff. *Am. Lancet.* Feb. '87.

CASES FROM PRACTICE.

CASE OF STRANGULATED HERNIA—EXSECTION OF INTESTINE.

BY N. B. CARSON, M. D., ST. LOUIS, MO.

[*Reported to the St. Louis Medico-Chirurgical Society, Dec. 14, 1886.*]

A boy between twelve and thirteen years old was admitted to the Sisters' Hospital on Grand Avenue, having a tumor in the right inguinal region, about the size of a walnut, painful on pressure and giving a history of hernia. The last acute attack occurred last Wednesday, while skating. He returned to the house after having been absent for an hour, and complained of his belly, called his brother into a back room, and showed him this tumor. His mother was called, and found him drawn up with pain. She applied some simple remedies, but the boy became no better, and the next day a physician was sent for, who, according to her statement, gave opiates and made warm applications, and in the afternoon ordered an injection which brought away only a small quantity of hardened feces. This condition continued until Friday, when vomiting set in, first of clear matter from the stomach, and afterwards of a brownish black, but not offensive. This continued until Sunday when he seemed to get better. Yesterday (Monday) he entered the hospital. The abdomen was distended and tense; the coils of small intestine were very distinct. The boy at that time was not vomiting, but was evidently partially under the influence of an opiate. The tumor was inflamed and about the size of a walnut. The pulse was about 100; the temperature 98.8°; the expression was good, and it was determined to wait until this morning for further developments. This morning the tumor was somewhat larger, more inflamed, the pulse had increased, the temperature still below 100°; the expression was somewhat pinched, and I then decided to cut down upon and explore the tumor. This was done: the tumor was

opened, and the sac discharged about a teaspoonful of very offensive gelatinous mucus and pus. I ran my finger around the extruded gut, and found it held firmly in the grasp of the external ring. I found it so firmly held that not even a particle of feces would pass through. I then determined to open the abdominal cavity, fearing to enlarge the ring, lest the gut might be perforated at the constriction, and if so, there would be fecal extravasation, and peritonitis would result. The opening of the abdomen proved the correctness of my conclusion, for upon introducing my finger to the site of the constricted bowel, it entered the intestine which must have been torn by the slight manipulation. I then grasped the intestine above so as to prevent any extravasation. I do not believe that the contents of the bowel were emptied into the cavity. I then tried to reduce the mass that was in the grasp of the ring by slight traction, and to remove it so that I could excise that portion of the bowel. This I found impossible, and I cut off the protruding portion. It turned out to be a knuckle of intestine which had come through the ring, not in its entire calibre, but so much of it constricted that it was impossible for the feces to pass. When I first examined the specimen, I thought it might possibly be the vermiform appendix. Then I thought it might be one of these diverticula, that are not often found, but, upon considering further, I felt certain that that was not the case, but that it was a portion of the intestine only that was constricted. When I last saw the patient he was reacting nicely; his temperature was 97.8° , his pulse was 116; on the whole his condition is very promising. Before the operation the pulse was 112. I opened the abdomen in the median line, excised about two and a half inches of the intestine, and brought the edges together with Lembert's sutures; I closed the opening in the groin with continued sutures, introducing a drainage tube, dusting on the parts a small quantity of iodoform.

In placing the sutures I only included the peritoneal and muscular coats. In this case, as in all cases where the mesentery is cut, there was a great deal of bleeding. A V-shaped portion of the mesentery was cut out, and this was first brought together by the continued suture, and then the peritoneal coat at the junction of the mesentery with the intestine was brought together and then the mucous coat at this point, and then on each side the peritoneal coat of the intestine making in all four sutures; then the Lembert suture was used including the two outer coats of the intestine.

FUNGUS METRITIS—CHOREA IN PREGNANCY.

• BY W. E. THOMPSON, M. D., ST. LOUIS.

Thinking that the particulars of what to me has been a most interesting case may also be of interest to others, I submit the following:

February 3, 1882, I was called to see Mrs. R., of this city, recently married, and found the following condition: Patient suffering from profuse flow of blood which had commenced at usual time for monthly period and had continued, gradually becoming more profuse for five days, which caused patient to feel somewhat alarmed. As there was no history pointing toward pregnancy having occurred, I supposed I had simply a case of menorrhagia to deal with, and placed patient on usual treatment for such cases, and left, without making further examination. On reaching my office the following morning I found a hurried summons to see my patient, word having been left to come immediately, as patient was bleeding to death. I found the following condition: Patient very weak and almost pulseless, hemorrhage still continuing. I immediately made a specular examination and could discover nothing abnormal about the womb excepting an unusually hard feeling to touch; cavity measuring three inches. On removing the sound I noticed clinging to it some small pieces of what I took to be simply coagulated blood; and as hemorrhage was still continuing, I concluded to tampon the vagina, first making application of perchloride of iron to uterine cavity. By this means the hemorrhage was controlled. I left tampon undisturbed for about twenty-four hours; and was surprised on removing it to find hemorrhage recur. Having gone as far then as I thought advisable without consultation, I requested same. Dr. W. Briggs being called, on examination thought probably there was cancer of the fundus; but was not certain. As the perchloride of iron had come in contact with the vaginal surface and rendered parts very sensitive, a thorough examination could not be made at that time. We again tamponed the vagina and left, waiting, as I feared, a fatal termination of case. That night I was called and found that the tampon had become misplaced, and the hemorrhage still continuing, I then concluded to wait no longer, but to at once thoroughly explore the cavity of womb which I found sufficiently dilated to ad-

mit the curette. On passing curette and removing it a mass resembling broken down granular tissue came away. I then curetted the entire cavity with cutting instrument, becoming greatly alarmed, as I progressed, at the amount of hemorrhage. I however continued until I could discover no more of the granular-appearing material. A few moments after ceasing to disturb the womb I was gratified to find the hemorrhage entirely stopped, there being now only a little serous discharge. Under antiseptic and tonic treatment my patient made a slow but satisfactory recovery, after which I saw no more of her until summoned to attend her in confinement about one year later, when I delivered her of a healthy female child, the labor being long and tedious and only completed by instrumental aid. Patient made at this time a quick and good recovery. Some three months later I was again summoned to see her, and found her in the same condition as when I saw her for the first time. She had been suffering from continuous hemorrhage for four days previous to my being called. I again curetted the entire womb, removing a considerable amount of granular matter, which was examined microscopically by an expert and pronounced to be epitheliomatous in character. From this time up to three weeks ago she has enjoyed usually good health. At that time I was called again to attend her in confinement, the husband stating that she had been having pain for several hours. On making examination I found the os partially dilated and membranes protruding slightly. After a couple of hours I found no advancement, but noticed at this time two very sensitive points about the cervix which, when touched caused considerable complaint. Being tired I concluded to give a good dose of chloral and go home, instructing them, if pains became severe during the night, to call me. To my surprise I was not disturbed during the night. In the morning I found my patient sitting up in bed eating her breakfast, and thanking me for the relief the medicine had afforded. She remarked that, shortly after leaving the house, the waters had come from her, after which she experienced such relief as to sleep quietly all night. A few days later I was called and found my patient suffering from well marked chorea, limited to the right side of the body. This condition continued until delivery some two weeks later, being benefited little, if any, by medical treatment. The labor was extremely tedious, but was completed, naturally, in sixteen hours, at the same time a small fibroid

tumor being expelled. I myself am satisfied that there is nothing malignant about this case, but what the character of the growth is, and to what due, I am at sea. This patient is now only twenty-four years of age and is physically in good condition, weighing one hundred and forty pounds.

2353 S. Broadway.

CONGENITAL DEFORMITY OF KIDNEY. ANOMALOUS LOCATION OF BOTH KIDNEYS.

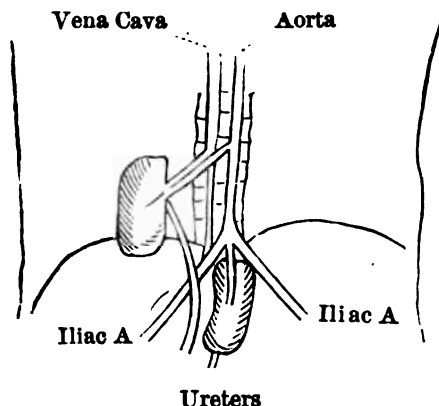
S. T. ARMSTRONG, M. D., PH. D., *Passed Assistant Surgeon U.S. Marine Hospital Service.*

The following cases, presenting some unusual features, may be found of interest, and are worthy of consideration in diagnosing obscure renal troubles.

CASE I.—CONGENITAL DEFORMITY OF LEFT KIDNEY. THOS. DORAN, native of England, was admitted to Memphis City Hospital, Dec. 27, 1884, for obscure fever. He had been in that institution previously for difficulty in micturition, but left because the interne asked him if he had ever had gonorrhea. No record was kept of the case, the patient dying January 1, 1885. I was asked to make the necropsy twenty-four hours post-mortem, Dr. E. Miles Willet, Jr., assisting. No organic lesion was found. The right kidney measured 10 by 7.5 centimetres, was fissured transversely, and the ureter and calices were greatly dilated. The left kidney measured 5 by 3.2 centimetres; the ureter arose from the lower and anterior portion, and it and the undeveloped calices contained calculi. The renal artery divided, entering the superior portion of the internal border on the anterior and posterior surfaces. The cortical and pyramidal tissue was undeveloped; though microscopical examination showed the existence of choked tubes.

CASE II.—ANOMALOUS LOCATION OF BOTH KIDNEYS. LOUIS SMITH, æt. 45, native of Germany, admitted to Memphis City Hospital, Oct. 14, 1886, in a comatose condition, dying in a few hours. I was asked to make the necropsy, assisted by Dr. Frich. The upper border of the right kidney lay upon the twelfth rib, its lower border extending below the crest of the ilium. The gland was

normal in size; slightly movable, and blood vessels normal excepting of lower origin. The upper border of the left kidney rested on the first sacral vertebra, and the gland rested on the sacrum. The left renal artery arose at the bifurcation of the aorta, and entered the



anterior external surface of the kidney about its center. The pelvis of the kidney was imperfectly developed on the posterior surface, and contained the ureter and vein. The sigmoid flexure of the colon passed over to the right side, and the rectum was on that side between the internal border of the kidney and the pelvis. Both kidneys were pale; chronic nephritis.

THE MEDICAL STANDARD is a new 32 page medical monthly published in Chicago by G. P. Engelhard and Co. The first number (Feb. 1887), contains a number of excellent articles by prominent men in various medical centres; and there is evidently some one of ability in the editorial chair; though no name is given. We wish our new neighbor every success.

OLEO-MARGARINE.—Dr. Jacob R. Ludlow regards oleo-margarine and butterine as a triumph of modern inventive skill. He says it is much better and more wholesome than much of the butter found in the market. He looks upon it as “a boon to the poor man and the man in moderate circumstances”. He considers the free use of it as a valuable hygienic measure. *Med. and Surg Rep.*

EDITORIAL.

REMARKS ON CANCER OF THE UTERUS.

Opportunity is duty. To whom much is given, of him shall much be required. The man who accepts an appointment upon a hospital staff, or to any other position whereby he acquires special opportunities for the study of disease or for obtaining skill in the use of remedies, has not fulfilled the measure of his responsibility when he has utilized his opportunities, however so well, for increasing his own knowledge or for improving his ability to relieve and cure the patients who come under his own direct supervision. Beyond all that, he owes it to the profession, of which he is one member, to make available to all the results of his experience and observation.

One of the objects aimed at in the establishment of the New York Skin and Cancer Hospital was to afford opportunity for the more thorough and scientific study of cancer, that opprobrium of our art; and it affords us pleasure to call the attention of our readers to some points in a paper recently published in the *New York Medical Journal* (Mar. 5), by Dr. Andrew F. Currier, one of the attending physicians of that institution, and who seems to realize the responsibility attending the special advantages for studying this disease which he enjoys.

With regard to the classification of the morbid conditions which are grouped under the common term cancer, Dr. Currier utterly rejects the common terms, encephaloid, medullary, colloid, etc., regarding as the only scientific basis for classification the anatomical structure.

Noting the three principal theories concerning the structure of

cancer, viz., those of Virchow, Rindfleisch and Waldeyer, he accepts the latter, which, as he observes, is in harmony with those of Thiersch and Billroth, and was maintained at the discussion before the Glasgow Pathological and Clinical Society in 1886.

Waldeyer's theory is that cancer or carcinoma is simply a typical epithelial new growth, which is derived essentially from epithelium wherever it occurs.

In accordance with this view as to its origin and development, Dr. Currier prefers to call all forms of these morbid growths *epitheliomata*, and he holds that the clinical differences which have given rise to the distinctive terms, hard, or scirrhus and soft or encephaloid, medullary, colloid cancer depend simply upon the degree of rapidity with which the development has taken place. The hard cancer is formed when the development is chronic or slow, the other forms when the course is acute or rapid, and where there is an excess of cells, which implies, relatively little connective tissue, high vascularity, offensive discharges and perhaps dangerous hemorrhages.

Cancer of the uterus in the larger proportion of cases is a primary affection, and the weight of opinion at present supports the view that it is local in its origin, though Sir James Paget regards it as a constitutional disease. At the Glasgow discussion last year Dr. Currier considers that the strongest arguments were advanced in support of the theory of local origin.

With regard to the question of heredity, which is involved in that of local or constitutional origin, Dr. Currier admits "in certain individuals an hereditary tendency to develop certain types of disease under sufficient provocation," but claims that "the fact that so many daughters of mothers who have died from cancer of the uterus have lived and borne healthy children, and died without showing any signs of cancer in any form, militates strongly against the hereditary theory which Sir James Paget has so earnestly endeavored to establish."

Schroeder's experience demonstrates conclusively, Dr. Currier

thinks, that there can be no radical removal of uterine cancer after the disease has extended beyond the uterus itself.

Among the data of interest from the records of the New York Skin and Cancer Hospital during the three years since it was established, it may be noted that of the 65 cases of uterine cancer which have been under observation, 25 were in Irish women, 15 in German, 13 in American (including 1 negress and 1 mulatto), 8 in English, 2 in Scotch, and 2 in French women. Of course this shows nothing as to the relative frequency of the disease among women of these different nationalities, as no accompanying figures indicate the number of residents of the city from those several countries. Still, it may be observed in passing, that there is a prevalent belief that the women of Ireland and Germany are more liable to this form of disease than are their sisters in other countries.

Almost without exception, these patients were poor, hard-working women, living in bad hygienic surroundings. These cases confirm the experience of other observers, that cancer of the uterus is exceptional in nulliparæ. Only three of the sixty-five were nulliparous. The ages of these were respectively thirty-nine, fifty-three and sixty-seven. The average number of children, born by forty-nine of the number of whom full histories were secured, was nearly four and one-half, one of them having had thirteen. In Schroeder's statistics, Dr. Currier finds that of the 603 cases of uterine cancer, 76 were in women who had borne ten or more children each. Almost all of the patients were between thirty and sixty years of age, 272 of them being between forty and fifty. Hence he considers legitimate the conclusion that cancer of the uterus is practically limited to the period between thirty and sixty years of age. Schroeder remarked that the disease developed very rapidly during the puerperal period.

As an etiological factor to which due weight has not been accorded by other writers, Dr. Currier calls attention to the influence of excessive sexual indulgence, involving "excessive hyperemia of

the uterus and vagina, excessive vaso-motor irritation, excessive destruction of the epithelium of the vagina and cervix uteri." He says further: "When we reflect that this indulgence is so frequently persisted in without respect to the normal hyperemia of the menstrual period, the softened condition of the tissues during pregnancy, or their parietic condition in the period which follows parturition, is it any wonder that cancer of the uterus heads the list, and that in by far the greater number of cases it is the cervix or vagina which first resents the injuries which have been received?"

Dr. Currier is an adherent of the doctrine that cancer of the uterus is the result of local irritation. Constitutional weaknesses, bad hygiene, improper alimentation, excessive fertility, etc., predispose, but a local irritation is, in most cases, needed to develop the disease, and it may be a long time after the action of the irritant before the action is produced.

Following Schroeder, Dr. Currier makes four groups of uterine cancer.

1. Most frequent, according to Schroeder, least malignant and most amenable to radical operation is the form of hard cancer, commonly known as cauliflower excrescence or cancrroid or papilloma. This is of slow growth, and involves principally the epithelium of the follicles of the mucous membrane of the vaginal portion of the cervix.

2. The second form is developed upon the pavement epithelium of the vagina and vaginal portion of the cervix, hard in consistency and slow in development.

3. The third variety has a relatively large epithelial element, with less connective tissue, and is, therefore, rapid in development and soft in consistency. Beginning in the epithelium of the mucous membrane of the cervical canal, it ulcerates upward and outward, presenting a cavernous opening, with walls which rapidly break down. Dr. Currier has found this form more frequent than the first form.

4. The last form is the least frequent of all, and begins in the

mucous membrane of the body of the uterus, and then extends to the cervix.

He notes also four methods by which the disease is propagated.

1. By direct extension into the surrounding tissues, displacing and destroying them by the greater activity of its elements, and itself breaking down and ulcerating in turn.

2. By invasion of lymphatic ducts and glands, choking and infiltrating them, the cells constantly proliferating in their onward march, and finally entering the blood current, and depositing themselves in distant parts or organs as foci for the formation of secondary growths which continue identical in structure with the primary one.

3. By direct entrance into the blood vessels, especially the veins of the original structure, thus infecting the system, and producing secondary growth more rapidly than is the case when the lymphatic system is first traversed. The latter is the usual, the other the exceptional method by which general infection is accomplished.

4. By auto-inoculation, the infecting epithelium being directly transferred or transplanted from the primary growth to the structure which is immediately contiguous.

With regard to operative treatment, Dr. Currier regards the operations now practised as the only rational method of procedure at present available, and "thoroughly believes in them," and noting the light mortality after hysterectomy in the experience of the best modern operators he thinks it well worth while to give the relief that follows the operation, even though the limit of life after these operations shall not exceed two years.

The close study of a case recently repeatedly seen in consultation, and which came under observation only after the adjacent organs were so fully involved and the uterine tissue was so thoroughly broken down as to render operative interference utterly impracticable, has given special interest and weight in my own mind to the concluding paragraphs of Dr. Currier's paper, in which he considers "the palliative treatment of this disease in its later stages."

The treatment pursued at the Skin and Cancer Hospital is based upon the following propositions, to which, doubtless, every one would readily subscribe:

1. It is the duty of a physician to use all available means to prolong life.

2. If life cannot be prolonged to any considerable extent, it is still his duty to make it as comfortable as possible.

By the "latter stages" Dr. Currier means the period in which constitutional infection has almost certainly occurred, and radical removal is not to be thought of. The uterus, usually, has become fixed, ulceration has commenced, and adjacent tissues have become involved in the morbid process. The general health is becoming affected, or cachexia is already manifest. Under these circumstances the treatment includes surgical, medical, dietetic and hygienic measures.

As to the surgical procedures, if the patient has sufficient strength to tolerate operative interference, and it has been found that the shock and inflammation following are usually slight, she is anesthetized, placed in Sims' position and a large Sims' speculum introduced. Then with scissors and curette the morbid growth is removed as fully and rapidly as possible. If free hemorrhage occurs, the cavity may be tamponed for a few minutes with styptic cotton. The hemorrhage having ceased and the cavity having been dried, a large and short 'Ferguson's' speculum is introduced, wet absorbent cotton being packed around this at the vulva. The bulb of a Paquelin cautery at a red heat is then carefully applied over the whole field of operation. A light cotton tampon is then introduced, the first piece being smeared with vaseline and the others with a solution of bicarbonate of sodium, or a mixture of iodoform and fluid extract of eucalyptus. This is allowed to remain two or three days, and two or three days later the slough from the action of the cautery will come away. "If the tissues will then admit it, the cavity is carefully packed with cotton dipped in a 30 per cent solution of chloride of zinc which may also remain two or three

days. Within a week an extensive slough of the entire interior of the uterus may be removed, and an apparently healthy granulating surface of the remainder of the organ will usually be found. Subsequent surgical treatment may consist of vaginal irrigations of hot water and suitable topical applications, astringents and disinfectants being of course selected."

Dr. Currier mentions that one of his colleagues, Dr. J. E. Janvrin, has used a paste made from the Brazilian plant *alveloz*, and has been well pleased with its effects. The action is caustic, but the pain produced is transient, and the immediate effect is quite favorable. Observations upon its actions are too scant to determine whether any permanent advantage can be expected from it.

The hygienic treatment consists in the removal of the patients from the city to the country branch of the hospital where, upon high and dry ground, small pavilions have been erected, in which the patients have all that can be derived from pure air, sunlight and quiet and pleasant surroundings.

The matter of diet Dr. Currier regards as of the highest importance, and has found the use of a milk diet to be most helpful and valuable when the stomachs of the patients will no longer tolerate the ordinary diet. He uses it with lime water or with sodium bicarbonate, in the form of koumiss, or peptonized, and in some cases where these have all failed he has used, with satisfaction, the cream mixture devised by Dr. Meigs some years ago, and to which reference was made by Dr. A. J. Steele in a recent discussion on artificial foods for infants at a meeting of the Medico-Chirurgical Society.

Stimulants he uses freely with the milk, giving the preference to whiskey and ammonia.

Medicine has a very limited field of usefulness in the advanced stages of cancer of the uterus. In most cases opium is necessary to allay pain, although it has been a matter of surprise to Dr. Currier that under the treatment indicated there has been so little pain, even when the secondary deposits have been most extensive.

In some cases which have come under our own observation it has seemed that the sensory nerves were to a very considerable extent obtunded by the toxic matters which had been absorbed into the blood, and which showed their influence also by producing a mental derangement, varying from profound stupor to deep melancholia or wildest delirium.

In a book published last year from the pen of Dr. Charles Creighton, entitled "Unconscious Memory in Disease," the author looks upon cancer "as an induced habit of the tissue, a habit that might be broken if we only knew how." He doubts very much the advantage of the union by first intention which is so commonly secured now under antiseptic treatment after the removal of parts; and is disposed to look for successful results of treatment for cancer in the local use of arsenic or other agent which has not only an escharotic but also an alterative action upon the tissues.

CASTRATION AS A THERAPEUTIC MEASURE.

Our readers will remember the report of a meeting of the St. Louis Obstetrical Society, in which there was a discussion concerning the value and propriety of oophorectomy as a measure for the treatment of epilepsy and other nervous disorders in women, and in which Dr. Gregory suggested the propriety of castration as an equally rational therapeutic measure for male patients.

In the *Pacific Medical and Surgical Journal* for February, Dr. Barton Dozier, of Los Angeles, Cal., reports a case in which he performed that operation upon a young man who seemed to be saved thereby from lunacy, and to be transformed into an independent and useful member of society. The young man had practised self abuse excessively in early youth, and then had thrown off the habit, but felt that he had ruined his health both physical and mental by this habit. He was willing to submit to anything which afforded any prospect of relief. All other measures having failed,

the operation was performed and with most thoroughly satisfactory results.

Dr. Lane, of San Francisco, expressed to Dr. Dozier the opinion that the operation was capable of accomplishing great good in suitable cases, but he thought it a dangerous operation to the surgeon, and related a case wherein a man, who had been castrated for an incurable disease of the testicles, with full consent of himself and approval of consulting physicians, brooded over the loss which he imagined he had sustained, until he at length became desperate, determined upon revenge and murdered the surgeon who had performed the operation.

Dr. Dozier expresses the opinion that the time is not far distant when this operation will be a common one for the cure of certain classes of lunacy and epilepsy.

He also expresses the opinion that "it should also be a part of the penal law of the land that when a person has been proven guilty of rape, he should, in addition to being compelled to serve a term of years in the penitentiary, also be castrated, when the death penalty is not inflicted."

That castration would be an appropriate penalty for the crime of rape, probably all will admit. Possibly the time will come when such legislation will be secured.

It cannot be questioned either that it would be a blessing to the community and to the whole human race, if the propagation of defective mental and moral organisms such as are begotten and born of epileptic and insane parents could be prevented, but we apprehend that the time is yet far distant when any law will be enacted which will authorize castration of either male or female patients of these classes for the express purpose of preventing their multiplication or even as a means of cure in the case of patients who are a burden upon the state for support and treatment but are incompetent to give an intelligent consent for themselves to the proposal of such an operation.

BACTERIAL TREATMENT OF PHTHISIS.

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Some months ago we called attention to the treatment of phthisis recommended and practised by Prof. Cantani, viz., by the administration in the form of a spray of a pure culture of the bacterium termo. Prof. Cantani was quite sanguine that bacterio-therapy would prove to be the truly successful mode of treating diseases which owe their origin to bacterial agencies.

In *Les Nouveaux Remedes*, Mar. 24, we note that a session of the Medical Society of Odessa, Dr. Filipovitch reported six cases of grave pulmonary phthisis treated by Cantani's method. He took five cubic centimetres of a pure culture of bacterium termo in beef bouillon, diluted this in 10 cc. of boiled water, scented it with one or two drops of tincture of mint to mask the unpleasant odor, and caused this to be inhaled by means of an atomizer. These inhalations were repeated twice a day with patients affected with fever, intense bronchitis and hemoptysis. They were discontinued after a week, the condition being much aggravated.

Three other patients died during the treatment, one after three days of inhalations, the second after seventeen days and the third after twenty-five days. The two last left the hospital after seventeen and twenty-two days of inhalations without any improvement. In one of those who succumbed, and a little before death, the expectoration became profuse, more liquid, and took a disagreeable odor recalling that of pure culture of *Bacterium termo*.

At the autopsy numerous excavations represented a veritable culture of bacterium; the liver was hypertrophied, partly dark red and partly pale red.

In the cases not followed by death, it was not possible to detect any diminution in the number of bacilli tuberculosis contained in the sputa. In the patient treated by inhalations for more than seven weeks, the bacilli increased perceptibly during the seventh week.

In no case did the inhalations exercise any action upon the temperature, the perspiration, or the weight of the body.

Dr. Filipovitch concluded from the experiments that no good can be anticipated from the treatment of tuberculosis by the inoculation of bacterium termo and that certain cases seem to prove that this kind of medication is not so inoffensive as some would say.

Dr. Roques-Casadesus, of Barcelona, had a patient with cavities at the apices of both lungs, an elevated temperature, profuse sweats, diarrhea, abundant expectoration, profound dyspnea, in a word, all the symptoms of an acute tuberculous degeneration. She was in the seventh month of pregnancy. A pure culture of *Bacterium termo* was employed twice a day by inhalations and also by intra-laryngeal applications. After a few days, the general condition improved, temperature fell from 39° to 38° or 38.4° . [102.2°F. to 100.4° or 101.1°].

The improvement continued until the accouchement which took place normally. But the patient succumbed after twenty hours.

It is questionable whether the temporary improvement was due to the treatment or not.

Certainly these results do not encourage very sanguine expectations as to the benefit of bacterio-therapy.

ORTHOGRAPHY OF MEDICAL TERMS.

In matters of orthography, as well as in matters political and commercial the spirit of the English people is eminently conservative. We were especially gratified, therefore, on noting in the *British Medical Journal*, of April 9, the following paragraph, which endorses so positively the policy adopted by the *COURIER* that we quote it in full:

"Professor Skeat, in a recent number of *Notes and Queries* says: Those who know the whole history of our spelling from the eighth century to the present time best understand the harm done by the the pernicious system of trying to transplant Latin and Greek symbols into the English language. The symbols α and \ae are not

English, and are best avoided. Indeed this is done in practice when once a word becomes common. *Æther* and *æthereal* have been sensibly replaced by *ether* and *ethereal*. No one now writes *eternal*. *Solocism* is now *solecism*, and I trust that *primeval* and *medieval* will soon prevail over *primæval* and *mediæval*. Pedantic spellings are most objectionable, because they are useless and unphonetic. We heartily agree with Professor Skeat, and trust that *diarrhœa*, *leucorrhœa*, *dysmenorrhœa*, etc., will soon give place to *diarrhea*, *leucorrhea*, *dysmenorrhea*, etc."

In this connection we wish to make a protest against the use of a word which we have met several times lately. We refer to the verb *micturate*, supposably corresponding to the noun *micturition*. The noun is correctly derived from the Latin *micturitis* or *mictio*, and that from the third conjugation verb *mingo*, *minxi*, *minctum* or *mictum*; but there is no possible correct derivation for such a word as *micturate*. If there were any occasion for another verb than *urinate* to designate the act of evacuating the bladder, the laws of derivation would necessitate the spelling *micturite* or *mictite* if the root of *micturition* is to be retained.

There is an old mnemonic grouping of words to assist in retaining the carpal bones which runs as follows:

S—ome L—adies C—annot P— —

T—hey T—hink M—icturition U—nseemly.

While *micturition* may be unseemly, to *micturate* is certainly barbarous.

M. PASTEUR'S TREATMENT OF HYDROPHOBIA.

That M. Pasteur's claim that his method of anti-rabic inoculation is an absolutely efficacious protection against hydrophobia cannot be maintained, is now apparent. It is too much to claim for any prophylactic. The most enthusiastic advocate of Jennerian vaccination would not at this day claim that this affords abso-

lute security against contracting variola, or even against a form of the disease of such severity as to terminate fatally.

In the *British Medical Journal*, April 2, there appears a paper from Dr. A. Lutaud, editor of the *Jour. de Médecine de Paris*. He gives in a table a list of the French patients of M. Pasteur who died in 1886, the number being twenty-five. Besides these, several foreigners who underwent the treatment died.

Nine of these patients died without presenting the generally known symptoms of hydrophobia. They suffered from paralysis, and it was the points where they had been inoculated, and not those where they had been bitten, that were painful. "The symptoms were much like what is observed in the animals inoculated by M. Pasteur with his artificial virus."

Prof. Peter, having watched the course of events during the year, took the floor at the sittings of the Academy of Sciences, Jan. 11 and 18, and gave an account of several of these cases. He asked and answered two questions:

1. Has the death-rate from hydrophobia been lowered in France during the year 1886 by Pasteur's method? Answer: No.

2. Does the death-rate tend to rise on account of the intensive method? Answer: Yes.

He then turned and addressed Prof. Vulpian: How is it that you, a medical man, did not see that the case of Meister was not a convincing proof, one case having in therapeutics no significance whatever? Could not the child Meister have five chances out of six, as we all have, of escaping hydrophobia after bites from rabid animals? How could you, a physician, conclude so rashly? How could you imprudently advise M. Pasteur to follow so dangerous a path? How could you, a physician, express yourself as you did when you said: 'Hydrophobia, that terrible malady against which all remedies have until now failed, has found a cure. M. Pasteur has devised a treatment by which it is possible *with certainty* to prevent hydrophobia from attacking a person bitten by a rabid animal. I say *with certainty* from what I have seen in M. Pasteur's

laboratory, because I have no doubt success will be unfailing when the treatment is carried out thoroughly a few days after the rabid bite.' How could you, by such inconsiderate words, run the risk of compromising the institute, M. Pasteur and yourself?"

In reply M. Vulpian gave some interesting statistics. He said: "We have inoculated 3,000 persons: the death-rate from rabid bites was formerly 160 per 1,000. Without M. Pasteur, then, 320 persons would have died in 1886 from hydrophobia: as only 22 died we have saved 300 lives."

M. Lutaud remarks that while it would appear these data are an unanswerable argument, it must be borne in mind "that by M. Pasteur's novelty, the number of persons attacked by hydrophobia is suddenly increased to an extraordinary extent." The death-rate from hydrophobia before 1885 was computed by Prof. Tardieu at 25 annually during thirteen years. Prof. Brouardel lately found that the deaths for the preceding twenty-three years had averaged 30 cases annually. Inasmuch as this estimate was based on returns from only two-thirds of the departments, the number for the whole of France would be 45, in M. Lutaud's opinion. In 1886 there were 39 deaths reported, by no means such a diminution of the deathrate as is indicated by the statistics cited.

M. Lutaud concludes his paper with an allusion to the fact that during two months lately nine persons have died with symptoms of paralysis (paralytic hydrophobia), after having been submitted to the new intensive method. He says: "If M. Pasteur cures hydrophobia, the cure is not a certainty as affirmed by M. Vulpian and the new intensive method is far from harmless.

He also mentions a fact, derived from the report of the cases, that of twenty-five fatal cases of fatal hydrophobia in 1886, only three had been previously cauterized. In commenting upon this part of the subject, the *British Medical Journal* says that if all of M. Pasteur's cases are divided into two groups, the cauterized and non-cauterized, it is found that the mortality rate among the latter is 0.81 per cent, while among the former it is 1.56 per cent. This

greater mortality among cauterized patients is easily explained by the fact that those who have recourse to cauterization are generally those who have been deeply bitten; and furthermore cauterization is not always performed immediately.

Evidently a final verdict as to the value as well as the dangers of the Pasteur treatment of hydrophobia cannot be rendered until a much longer and fuller trial has been given it.

FREQUENCY OF ABORTIONS.

Dr. W. O. Priestley this year delivered the course of Lumleian Lectures before the Royal College of Physicians of London, the subject discussed being "The Pathology of Intra-Uterine Death." The lectures are the product of much careful research and investigation, and are an invaluable contribution to the literature of obstetrics. We can only call attention here to a very few of the points which are brought out by the lecturer.

With regard to the frequency of abortion, Dr. Priestley notes that Hegar reckons one abortion to every eight or ten full-time deliveries. Dr. Priestley gives some interesting statistics derived from notes of 400 private patients, all of whom had reached at least the fortieth year, hence, including for most of them the whole of the child-bearing period of life.

The results he gives as follows: 400 women had been pregnant 2,326 times, resulting in the birth of 1,783 living children and 542 abortions. The proportion of abortions to children was 30.40 per cent, or about 1 in 3, while the proportion of abortions to pregnancies was 53.32, or about 1 in 4. The number of women who had borne children but had never had an abortion was 152 in the 400, or 38 per cent, while the number who had borne no living child and had only had abortions, was 27 or 6.75 per cent. The average number of pregnancies for each was 5.01, that of abortions 1.35.

Dr. Whitehead's statistics, reported in 1847, and which were

gathered from the records of the Manchester Lying-in Hospital and relate to women of the lower classes, give a proportion of 87 per cent as having had abortions, while Dr. Priestley's figures give only 62 per cent as having had such experience. The difference probably indicates approximately the influence of the different circumstances of the two classes of women. It is to be noted, however, that the women reported in Whitehead's tables were all under 30 years of age, while those in Priestley's tables were all 40 years old, thus including the last decade of the child-bearing period, which is believed to give a larger proportion of abortions than the first years.

INTERNATIONAL CONGRESS ON INEBRIETY.—The Council for the Study and Cure of Inebriety, have completed arrangements for an International Medical Congress, to be held at Westminster Hall, London, July 5, and 6, 1887.

The object of this Congress is to present and discuss the problems of Inebriety medically, and from a purely *scientific standpoint*, by the best authorities, thus laying the foundation for a broader and more exact study of this subject.

At the close of the second day, a dinner will be served to the Congress by the Society for the Cure of Inebriety; on the third day an excursion and reception will be held at Dalrymple Home.

Papers and addresses are promised from a large number of the most distinguished physicians.

Among the officers of this congress we note the following vice-presidents from our own country: Dr. T. D. Crothers, U. S. A., Ed. *Jour. Inebriety*; Dr. N. S. Davis, Chicago, Pres. Am. Med. Assoc.; Dr. J. H. Blanchard, Fort Hamilton, N. Y.; Dr. L. D. Mason, Brooklyn, N. Y.; Dr. C. H. Hughes, St. Louis, Mo.; Dr. J. B. Mattison, Brooklyn, N. Y.; Dr. Jos. Parrish, U. S. A. Pres. A. Soc. Ine.; Dr. T. L. Wright, Bellefontaine, Ohio; Dr. E. C. Mann, Brooklyn, N. Y.; Dr. Albert Day, Boston, Mass.

The proceedings of this congress will be of interest to all who may be able to attend the sessions or who may have the opportunity of reading the published reports of them.

BOOK REVIEWS AND NOTICES.

A PRACTICAL TREATISE ON OBSTETRICS. By A. CHARPENTIER, M. D., Paris. Vol. I. Anatomy of the Internal and External Genitals, Physiological Phenomena (Menstruation and Fecundation). 8vo.; pp. 507; cloth. Vol. II. The Pathology of Pregnancy. 8vo.; pp. 381; cloth. Vol. III. The Pathology of Labor. 8vo.; pp. 348; cloth. Vol. IV. Obstetric Operations: Sequelæ of Pathological Childbed, Puerperal Fever. (New York; Wm. Wood & Company, 1887.)

These four volumes are also the first four volumes of the "Cyclopedia of Obstetrics and Gynecology" (12 vols.), issued monthly during 1887. The price of the set, \$16.50.

For a number of years past we have had occasion to call the attention of our readers to the several series of volumes which have been published by Messrs. Wm. Wood & Co., of New York, under the style "Wood's Library of Standard Medical Authors."

Not one of these libraries has been published which was not well worth the cost of it to any practitioner, and each succeeding year has shown an improvement upon those preceding.

This year these enterprising publishers have changed their plan somewhat. Instead of publishing a library in which the different volumes are devoted to a variety of subjects, the whole series for this year is devoted to obstetrics and gynecology.

The most eminent of French and German writers in this department have prepared treatises which have been translated and annotated by the American editor, Dr. E. H. Grandin.

The four volumes of Prof. Charpentier which we here notice in themselves form a very complete treatise on obstetrics, while in the succeeding volumes are given the work of some of the most prominent of the continental gynecologists.

The volumes are well printed and profusely illustrated. Only occasionally do we notice slight errors in proof-reading. The only one that seems worth noting thus far is the spelling of the name of the eminent German author, Schroeder, which is repeatedly spelled Schröder in the first part of volume I., though we note that it is correctly given in the latter part of the same volume.

We would strongly recommend our readers to subscribe for the "Cyclopedia of Obstetrics and Gynecology."

UNCONSCIOUS MEMORY IN DISEASE, including a Theory of Alternatives.

By CHARLES CREIGHTON, M. D. New York: J. H. Vail and Co., 1886, 12mo.; pp. 212; cloth.

The author of this work has earned by previous excellent work the right to claim respectful attention to whatever he may have to say on any medical topic. The work now before us is one which is exceedingly suggestive, and there are some practical matters in regard to therapeutic measures which are of value.

He attacks some of the cherished maxims of the profession with a good deal of vigor, and unquestionably the truth is on his side. For example, he says: "A familiar maxim of treatment is that if the cause be removed, the disease will get well of itself. Many troublesome attacks of illness give the lie to that maxim; they persist when the cause is no longer in operation, or after their natural cycle is completed; they persist by the power of memory or the force of habit."

The truth is, as he expresses it, "The disease gets well of itself, provided we remove not only the cause, but also the memory." (p. 47.)

We are not prepared as yet to accept all the applications which he makes of memory as the cause of morbid manifestations; nor is his argument conclusive to our minds as we follow it through the volume. Yet that there is much of truth in what he therein says is unquestionable, and the volume is a profitable one to read whether less or more of its claims shall be finally accepted.

A TEXT-BOOK ON SURGERY: General, Operative and Mechanical. By JOHN A. WYETH, M. D., etc. New York: D. Appleton & Co., 1887. 8vo.; pp. 777; cloth or sheep.

The features which are specially notable in this new work on surgery when there are already so many excellent treatises, is the clearness and conciseness of description and the accuracy of expression. The illustrations are specially excellent. In the section on ligation of arteries the arteries and veins are shown in colors. Where it is necessary to indicate the names of different parts in the illustration, this is done by printing the name upon the part, and not by means of letters and foot note references, which are so often confusing.

In some regards this seems to us to be the best treatise on the subject for the use of the general practitioner. Dr. Wyeth has well done a most difficult task; he has made a book which will create a demand for itself in spite of the large number of excellent treatises by eminent writers upon the same subject.

DISEASES OF THE BLOOD AND NUTRITION AND INFECTIOUS DISEASES. Being volume IV. of a "Handbook of Practical Medicine," by Dr. HERMANN EICHHORST. New York: Wm. Wood & Co., 1886. 8vo.; pp. 407. (Wood's Library.)

This volume completes Wood's Library of Standard Medical Authors for 1886, and at the same time the set of four volumes comprised in Prof. Eichhorst's "Handbook of Practical Medicine." The work has become a decidedly popular one in Europe as a thoroughly practical one, and will doubtless become so here as well.

MANUAL OF OPERATIVE SURGERY.—BY JOSEPH D. BRYANT, M. D., etc. With about eight hundred illustrations. New York: D. Appleton & Co., 1887. 8vo.; pp. 530; cloth.

Several valuable works on surgery have recently been issued by different publishers. The present volume is an enlarged and rewritten second edition of a work by the same author, published some time ago by another house. The illustrations are more numerous than in the former edition, and are well adapted to aid in comprehending the text. The author is not only an eminent surgeon, but also has the power of clearly communicating his knowledge to others, two things which do not by any means always go together.

The work of the publisher also has been admirably done, and the volume is presented to the profession in an admirable form.

WATER A PENNY A GLASS.—There are hundreds of people in Philadelphia who, during the summer, abjure Schuylkill water in its natural condition, and even drink it with a grimace in coffee or tea. Many buy spring water as they buy their ice, so many gallons each day at so much a gallon. Every day, at the corner of Seventh and Market streets, may be seen a big covered wagon, to which a big and lazy looking mule is attached, bearing the sign:

"Pure Cold Spring Water, Fresh from Delaware County. One Cent a Glass.

BOOKS AND PAMPHLETS RECEIVED.

Pocket Medical Formulary, arranged Therapeutically, by Alexander Hazard, M. D., and Bernard M. Goldberg, M. D., revised and enlarged by Abraham S. Gerhard, A. M., M. D.—Transactions of the Texas State Medical Association, Eighteenth Annual Session held at Dallas, April, 1886, 8vo.; pp. 691; cloth.—First Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania, 1885. 8vo.; pp. 361; cloth.—A Practical Treatise on Obstetrics. By Dr. A. Charpentier, Translated by Egbert H. Grandin, M. D., in four volumes. Vol. I. 267 gne wood engravings and four colored plates. Vol. II 45 wood-cuts and two colored plates. New York; Wm. Wood & Co., 1887. 8vo.; pp. 509; cloth.—The diseases of the Ear and their Treatment. By Arthur Hartmann, M. D. Translated from the third German edition by James Erskine, M. A., M. B. With forty-two illustrations. New York, G. P. Putnam's Sons, 1887. 8vo., pp. 283, cloth, \$2.75.—Pregnancy. Parturition and the Puerperal State. Paul F. Mundé, Detroit, Geo. S. Davis & Co., 12mo., pp. 110. Paper, 25 cents (Physician's Leisure Library).—The Medical Students' Essentials of Physics and Chemistry. By Condict W. Cutler, New York. J. H. Vail & Co., 1877. 32mo., pp. 400, cloth.—Use of Massage in Medical Practice. Translated by Benjamin Lee. Philadelphia, Collins, 1887, 12mo.; pp. 22; paper, 25 cents.—Earth as a topical Application in Surgery. By Addinell Hewson, M. D. Second edition, with four Photo-Relief Illustrations. Philadelphia Medical Register Co., 1887. 8vo. pp. 309; cloth, \$1.00.

PAMPHLETS AND REPRINTS.—Live Birth in its Medico-Legal Relations. Annual Address by John J. Reese, M. D.—Will Contests. By Walter E. Rex, Esq.—The Scientific Rationale of Electro-Therapy. By C. H. Hughes, M. D. (Alienist and neurologist).—Two Obetrical Heresies. Ry S. F. Starley, M. D.—Persistent Pain after Abdominal Section. By James B. Hunter, M. D. (Gynecological Transactions).—Annual Address delivered before the American Academy of Medicine. By R. S. Sutton, A. M., M. D.—Thoracic Aneurism. By H. P. Wengel, M. D.—Novel System of Operating for the Correction of the Deflected Septum. By William Chapman Jarvis, M. D. (Med. Rec.)—Forensic Surgery. Wm. Zuppan vs. Wm. Dickinson, M. D. Verdict for Defendant.—Practical Examples in Prescription Writings. By Charles H. May, M. D.—Transplantation of a Rabbit's eye into the Human Orbit. By Charles H. May, M. D. (Arch. of Ophthalmology.) A Case of Autepartum Hemorrhage at Term. Recovery. By Augustus V. Park, M. D. (Jour. Am. Med. Ass'n.) A Case of Pyelitis of Nineteen Years' Du-

ration, caused by a Renal Calculus. Recovery. By Augustus V. Park, M. D. (Jour. Am. Med. Ass'n.) Noises in the Head and Ears. By Rob't Barclay, A. M., M. D. (Review.) Researches into the Etiology of Danger. By J. W. McLaughlin, M. D. (Jour. Am. Med. Ass'n.) The Source of the Mississippi. (Reprint from Science.) Essential Vertigo. By L. Bremer, M. D. (Jour. Am. Med. Ass'n.) Follicular Amygdalitis. By A. Jacobi, M. D. (Med. Rec.) Unger Vetlesen, om Dilactatic Ventriculi. (Norsk Magazin.) Biennial Report of the State Board of Health of the State of West Virginia for 1885-86. Cases of Poisoning from the Eating of Dried Beef. By R. Harvey Reed, M. D. (Jour. Am. Med. Ass'n.) The Doctorate Address delivered at the Semi-Centennial Anniversary of the Medical Department of the University of Louisville. By David W. Yandell, M. D. Cooper Medical College of San Francisco, Annual Announcement, Session of 1887. Annual Report of Morse Dispensary of Cooper Medical College for 1886, San Francisco. Some Considerations Concerning Cancer of the Uterus, etc. By Andrew F. Currier, M. D. (N. Y. Med. Jour.) Ninth Annual Report of the Presbyterian Eye, Ear and Throat Hospital, Baltimore. Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides. By C. H. Hughes, M. D. (Alienist and Neurologist.) Captain Glazier and his Lake. American Public Health Association. Preliminary Announcement of the Fifteenth Annual Meeting to be held at Memphis, Tenn., Nov. 8-11. Long Island College Hospital, Brooklyn, Twenty-ninth Annual Announcement, 1887. Forensic Surgery. Wm. Zuppan vs. Wm. Dickinson, M. D. Verdict for Defendant.

DIPHTHERIA.—The difficulty of educating the public into the belief of the necessity of quarantining the sufferers from this disease, is beyond comprehension. We have seen children playing in the street suffering from a mild attack of diphtheria, who were as capable of infecting others with the disease as though they had it in the most virulent form. Indeed, we witnessed one death produced by contact with these children, and yet their parents could not be persuaded to keep them from contact with others. It is thus that the disease is often diffused from house to house and kept alive where it ought to be diligently extirpated. Every person having it ought to be isolated, and every house in which it is ought to be quarantined and a colored flag placed in a conspicuous position upon the dwelling, to mark the location of the enemy. Local authorities ought to compel such precautions to be taken, as there is no question of the disease being wholly under the control of efficient sanitary measures.—*Dr. G. G. Tyrrell, Sacramento.*

REPORTS ON PROGRESS.

MEDICINE.

Reflex Nervous Action.—WATSON SMITH gives the following remarkable and interesting example of the reflex action of the olfactory nerves upon the nerves of the palate and stomach.

One of his own children was very ill with dysentery, and he desired to secure the beneficial action of ipecacuanha. But the child had become so weak and the stomach so irritable that vomiting was at once excited, and after several fruitless attempts to retain it, the child refused to try again or to take the medicine.

Having previously noticed that very young children and infants are greatly attracted by perfumery, and that it seems to have a somewhat sedative effect upon them, he determined to try to act upon the imagination of the child and lead him to attribute to the article administered the delicate odor of the perfumery, and so transfer the pleasant impression upon the olfactory nerves to the nerves of the palate and stomach, and so quiet these organs and secure the retention of the needed remedy.

The experiment was a success. He commenced with a simple article of diet administered with a spoon held in a handkerchief on which a delicate perfume had been placed. The effect was good, and the child said the taste was pleasant. After a little while some of the ipecacuanha medicine was given in the same way, the attention of the child being called to the pleasant odor of the contents of the spoon. The medicine was then taken without difficulty and was readily retained. A spoonful of milk was given at once and this was retained. After this the perfumery was used only in connection with the administration of the medicine, and no difficulty was found either in taking or retaining it and convalescence ensued.—*Med. Chron.*, March, '87.

Sudden Death in Pleurisy.—E. WEILL (*Rev. de Médecine*, Jan. 10, '87) concludes an interesting paper on this subject as follows:

1. Sudden death in pleurisy appears conjugated with certain lesions of which the principle are: Thrombosis or embolism of the heart or pulmonary artery; edema of the lung of the opposite side; structural alterations in the myocardium.

2. Those cases of sudden death attributed to simple functional troubles, *e. g.*, syncope, mechanical displacement of the heart, and torsion of the great vessels; to hypothetical lesions, such as capillary embolisms of the cerebral vessels, etc., ought to be provisionally secured.

3. Sudden death occurs in pleurisies of the most diverse kinds, in right pleurisies more often than in left, in acute or chronic; when the effusion is progressive, stationary or retreating. Generally the liquid is serous.

4. Those pleurisies which terminate in sudden death may or may not be accompanied by particular symptoms, *e. g.*, attacks of dyspnea, premonitory syncope, irregular pulse, deviation of the heart from its normal position. Often death occurs in the midst of the most satisfactory appearances. It is generally produced by some movement or effort.

5. As regards treatment, this is important when lesions of the myocardium or thrombosis of the peripheral veins exist, but on the contrary is frequently efficacious when these do not co-exist. The treatment is thoracentesis. This will be indicated in certain cases by symptoms of a menacing character (enumerated above) in others by the increase of the intra-pleural pressure. It is applicable either to acute or chronic cases.—*Med. Chron.*, March, '87.

Formule for the Lithic Diathesis.—PIERRE VIGIER, referring to the difficulty of selecting remedies for gout, gravel, or articular manifestations of the lithic diathesis or lithemia, suggests the following as having proved satisfactory in his experience in combating the occurrence of crises.

1. In cases of old gout without complication:

R. Lithii carbonat., - - - 10 grammes
Ext. gentianæ, - - - 5 "

M. Div. in pill, no. c. Sig. one pill with each meal.

2. When the gout is complicated with nephritic colic it seems better to replace the carbonate with the benzoate of lithium as follows:

R. Lithii benzoatis, - - - 10 grammes
Ext. gentianæ, - - - 7 "

M. Div. in pill no. c. Sig. One pill morning and evening.

8. If there is chronic gout with calcareous concretions (tophi) at the site of the articulations, the iodide of potassium or of sodium should be associated with the lithium.

R.	Lithii carbonat.,	-	-	-	10.	grammes
	Sodii iodidi (dessic),	-	-	-	10.	"
	Ext. gentianæ,	-	-	-	1.5	"
	Pulv. acaciæ,	-	-	-	1.5	"
	Pulv. glycyrrhizæ,	-	-	-	6.5	"

M. Tere et div. in pill no. c., to be preserved in a glass bottle.
Sig. A pill with each meal.

If iodide of potassium is used instead of sodium, the pulv. glycyrrhizæ may be omitted, as the potassium salt is non-deliquescent.

R.	Lithii carbonatis,	-	-	-	10.
	Potassii iodidi,	-	-	-	10.
	Pulv. acaciæ,	-	-	-	1.5
	Ext. gentianæ,	-	-	-	4.5

M. Tere et div. in pill no. c. Sig. One pill with each meal.—*Gaz. Hebd. de Méd.—Lyon Méd.*

Ichthyol in Rheumatism.—DR. DUBELIS cites eight cases of rheumatism treated by ichthyol at the military hospital of Moscow, of which six were acute and two chronic. The drug is employed both internally and externally. The parts affected are well washed with soap-suds, dried, rubbed with ichthyosulphate of ammonium, and then covered with cotton or flannel. After some time, or when the skin has been insufficiently or improperly washed, these applications determine the appearance of pustules. Internally the author gives fifteen to twenty-five drops of the medication in a glass of water, or in the form of pills of one and one-half grains each, six to twelve daily. The author insists upon this point, that ichthyol is given in rheumatism only for its anodyne effects.—*Rueskaya meditsine*, Aug., '86, *Nouv. Rem.*, June 24, '87.

Peroxide of Hydrogen in Whooping Cough.—DR. B. W. RICHARDSON regards the peroxide of hydrogen as the best agent that he has ever used in whooping cough. He uses the following formula:

R.	Hydrogen peroxide (10 per cent)	-	-	3vj.
	Glycerine,	-	-	3ss.
	Aq. destillatæ,	-	-	ad 3iij.

M. Sig. A tablespoonful as a dose.

Ethereal Oxygen.—DR. RICHARDSON describes as follows the method of preparing what he has named ethereal oxygen, which he recommends in a large class of cases, such as pertussis, asthma and phthisis. He places in a Wolffe's bottle with an inhaling mouth piece attached to one neck, two ounces or more of ozonic ether, the ethereal solution of peroxide of hydrogen. To this he adds gradually solution of permanganate of potassium, eight grains to one ounce of water, by the other neck of the bottle, and then corks that neck. As the fluids commingle, oxygen gas and ether vapor are given off freely, and can be inhaled by the mouth piece. He regards this as a very valuable contribution to practical therapeutics. —*The Æsculpiad*.—*Med. Rec.*, Mar. 12.

Roetheln.—DR. I. E. ATKINSON in an elaborate paper on this subject in the *Am. Jour. Med. Sciences*, Jan. 1887, gives the following tabular statement of the differential diagnosis between

ROETHELN

and

MEASLES.

CONTAGIOUSNESS.

Feebly contagious.

Violently contagious.

INOCULATION STAGE.

Usually from fourteen to twenty-one days. Often, however, less, but hardly ever less than one week. Rarely longer than twenty-one days.

Usually from nine to ten days. It may be only seven days, or as much as eleven or twelve days. Very rarely less or more than those extremes.

PRODROMAL STAGE.

Very often none. Usually from one-half to two days. May be prolonged in rare cases to three, four or even five days.

The eruption usually appears on the fourth day, sometimes earlier, rarely later.

CATARRH.

Frequently absent or limited to slight conjunctival hyperemia. Nasal, faucial and bronchial irritation rarely pronounced.

Almost invariably present, affecting conjunctiva and respiratory passages. May be slight, but usually much more severe in mild cases of measles than in severe cases of roetheln.

LYMPHATIC SYSTEM.

Painful enlargement of occipital, auricular, cervical, submaxillary, and occasionally of other glands; quite constant during eruptive and frequent during prodromal stage.

Painful enlargement of these glands decidedly uncommon.

CIRCULATORY SYSTEM.

Temperature very often normal throughout. Rarely exceeds 100° F. (37.8° C.) High temperature only exceptionally observed. Maximum fever corresponds to development of eruption during first two days, and does not necessarily correspond to maximum eruption. The fever rarely endures beyond the third day.

Fever always present, often intense. Maximum fever corresponds with maximum eruption on the sixth day. Defervescence rarely complete before seventh or eighth day.

ERUPTION.

It appears on the first, second or third day, rarely later. Often disappears from parts first invaded before other parts are attacked. It is pale, rose-red in color, and only rarely assumes a dusky red. It is usually discrete, sometimes diffuse. In the former case the lesions are papulo-macular and generally circular, and do not tend to form crescentic groups. In the latter cases they often coalesce by fusion of their borders, and form pale red continuous surfaces. These are not, however, universal, and are always associated with the discrete rose-colored spots, which are not uniform in size, and not always circular, but may be angular and measles-like. The eruption rarely persists beyond the third day, and is often completed in forty-eight hours, but may last longer.

The eruption almost always appears on the fourth day, sometimes earlier, sometimes later. The lesions remain in full efflorescence until the maximum is attained, usually during the sixth day, when they begin to fade with the beginning of defervescence. They are papular and tend to form crescentic groups, at least on the face, neck and upper portions of the trunk. They are mostly of a dark raspberry color, and are very irregular in outline. They may coalesce with patches of dusky redness. Rarely the eruption may be pale in color, or more circular and discrete.

FAUCIAL IRRITATION.

Sore throat is present in nearly all cases, but hardly ever occasions difficulty in deglutition. A punctate, or papular, or diffused eruption appears upon the faucial mucous membrane. This may precede the cutaneous eruption.

Sore throat is uncommon, yet from eighteen to twenty-four hours before the cutaneous eruption appears, there may be seen small, hemp-seed sized papules and macules scattered over the faucial mucous membrane.

COMPLICATIONS.

Very unusual, when present generally involve the respiratory tract.

Very common, generally involving the respiratory tract.

DESQUAMATION.

But rarely observed and then as almost imperceptible branny scales.

Branny desquamation constant and lasting several days.

In conclusion he states:

1. Roetheln is a specific, contagious, eruptive disorder.
2. While it possesses pretty well defined characteristics, which, taken together, justify a reasonable degree of certainty in its diagnosis, it has no symptom which may not be and is not often assumed by measles.
2. A sporadic case, occurring in one who has never had measles, and who affords no history of exposure to roetheln, may be diagnosed with a fair degree of confidence, but not with absolute certainty.
4. The unqualified diagnosis of roetheln should only be made during an epidemic in which all persons exposed, irrespective of former attacks of measles, are liable to be affected, and in whom the symptoms follow a pretty uniform type. In the absence of a pronounced epidemic influence, a series of cases occurring in a household, a school or an asylum, showing typical symptoms, may

be diagnosticated as roetheln with a fair degree of confidence.

5. In sporadic cases, where neither measles nor roetheln has been experienced, a diagnosis of probable measles or roetheln must be made, accordingly as the symptoms and course resemble the type of one or the other affection.

Treatment of Anemia.—DYCE DUCKWORTH discussing the "Inadequate Treatment of Anemia," remarks that there is everywhere a great deal of untreated anemia, which he thinks he observes as well and as commonly in healthy rural districts as in the large towns. The causes of the disorder are by no means uniform, and in his opinion are often due to nervous influences as undoubtedly as in others they arise from bad air, bad food, and imperfect solar influences.

Noting that in his opinion many cases are insufficiently or incompletely treated, mild cases being allowed to go wholly without treatment and too little care being taken in other cases to restore the defective condition of the blood, he admits his acceptance of the common opinion that iron is practically a specific remedy in anemia of the non-pernicious form, and further the belief that many of the failures attributed to it are due to improper administration or insufficient doses of this remedy.

Two methods of treatment have proved efficacious in his hands. The first consists in the administration of saline aperients together with good diet and some full-bodied red wine, such as Burgundy, to the extent of four or six ounces daily. This often effects a cure without any iron.

The second treatment is that with iron. Noting that iron will hardly agree with the patient unless the tongue be clean, and any catarrhal state of the stomach be first removed, he suggests the use for a few days of an alkaline and bitter tonic for a few days, such as a soda and columba mixture, followed then by the administration of iron first in small and increasing to large doses. The non-astringent preparations are to be preferred, among which he regards the ammonio-citrate, the tartrate and saccharine carbonate as the best. Five to twenty grains of either of these may be given three times a day, the larger doses succeeding where the smaller ones fail. Dr. Duckworth is disposed to give the choice of these preparations to the saccharated carbonate, and adds that this may be given in half dram doses spread upon bread and butter. It has

been found very valuable in the form of Blaud's pills, to which the attention of the profession was first drawn by Prof. Niemeyer.

The formula which he gives is that commonly known in this country, viz.:

R. Ferri sulphatis,
Potassii carbonatis, - - - - aa gr. ij
Glycerini tragacanthæ, - q. s. M. Ft. pill. No. j.

Dose, one pill three times a day gradually increased to four or six pills three times a day.

While it is apparent that thus administered the stomach receives a much larger quantity of iron than is actually taken up, Dr. Duckworth thinks there is unquestionable clinical evidence that these large doses do accomplish favorable results which are utterly unattainable by small doses. He urges the administration of larger doses of iron, and says further, that it is often necessary to keep the patient under observation for a year or two, and to repeat the treatment for a few weeks at intervals, as there is a strong tendency to relapse and for the benefit to wear off.

In addition to the efficient use of drugs he urges the necessity of securing rest in bed for a few days or weeks in the commencement of treatment of severe cases, especially where there is cardiac debility and dilatation, or if there are symptoms leading to suspicion of gastric ulcer.—*Brit. Med. Jour.*, Mar. 12, '87.

Chronic Constipation.—DR. J. K. SPENDER emphasizes the value of combining sulphate of iron with aloes in the treatment of this disorder. His attention having been called to this combination by his father, he experimented with it quite extensively. To secure curative results the mode of administration is of the utmost importance.

He gives a pill containing from one-quarter to one-half grain of the extract of Socotrine aloes with a grain and a half of sulphate of iron. In some cases one-eighth to one-sixth grain of aloes is sufficient. Sometimes the addition of a little extract of belladonna (say one-eighth grain), is of advantage, but more often it disturbs the vision and insalivation to such an extent that it must soon be withdrawn.

One such pill is to be taken by an adult immediately after each meal, three times a day. For two or even three days no medicinal evacuation of the bowels may be noticed, but in the following forty-

eight hours there will be most likely an evacuation once or perhaps twice in the day. Nothing approaching purgation should ever be permitted, and the patient should be instructed that when the first loose motion occurs a pill must be withheld, taking only one in the morning and one in the evening.

After two or three weeks, the same effect will lead to the dropping of another pill, and one pill a day produces the same effect as was produced by three. Within another month one pill twice or thrice a week will probably suffice, and finally an occasional pill will be all that will be needed.

He remarks that intelligence and memory on the part of the patient are necessary to success in carrying out even so simple a plan of treatment.

If there should be too much action at first from inadvertently taking too many pills, the medicine must not be withheld for more than fifteen or eighteen hours, or a comparative constipation will immediately return.

In some obstinate cases it may be necessary to give a combination of colocynth and iron at first.—*Practitioner*, Mar. '87.

Subjective Symptoms and Objective Conditions in Dyspepsia.—JAWORSKI published in the *Wiener Med. Wochenschrift*, last December, a very valuable paper showing the results of a long and careful investigation of this subject which he has carried on. The conclusions which he reached are as follows:

1. Good nutrition speaks in favor of the localization of the disease in the stomach, and excludes implication of the small intestines.
2. In great anemia, and even cachexia, with idiopathic disease of the stomach, hyperacidity of the stomach is very probable. Seventy-five cases of anemia were found in 188 dyspeptics, and sixty of these had great hypersecretion. Hypersecretion is generally accompanied by anemia, and in some cases of very grave anemia the digestive power of the juice was remarkably great.
3. Vomiting occurs usually in persons having no deficiency of HCl.
4. With great tenderness of the epigastrium deficiency of acid is not probable.
5. Preponderance of nervous symptoms is usually accompanied with increased digestive mechanism. Of 188 cases, in 99 there was a preponderance of nervous symptoms over those referred to the

stomach, in 62 of these there was hyperacidity or hypersecretion, 23 a normal secretion, 8 deficiency of acid, and in 6 total failure of secretion. In 9 cases remains of food in the stomach after the normal period called forth severe nervous symptoms. The consideration of nervous symptoms, to the neglect of the internal examination of the stomach is very likely to mislead.

6. An excessive feeling of thirst almost always points to great hypersecretion, which is usually combined with mechanical insufficiency or ectasia.

7. Sour eructations point to an acid condition of the stomach.

8. In excessive eaters who seem to have a false appetite, hyperacidity and hypersecretion with mechanical insufficiency or moderate dilatation, is met with. The state of the appetite gives no guide to the state of the secretion or mechanism of the stomach, for of 38 persons in whom there was an absence of appetite, 16 had an excessive and continuous HCl secretion.

9. Cramp of the stomach is generally accompanied by great hyperacidity.

10. The feeling of aching in the stomach points to an extensive irritation of the stomach by hyper-acid secretion, and the presence of numerous cell nuclei.

11. In slight degrees of dyspepsia a high degree of acid hypersecretion is not probable.—*Med. Chron.*, Apr. '87.

Bicarbonate of Sodium in Tonsillitis.—Attention has been called heretofore to the local application of sodium bicarbonate in cases of tonsillitis. W. J. Baker reports that for two years past he has used this mode of treatment with most satisfactory results. He says, "Many patients who were quite unable to swallow even liquids without acute suffering were, in the course of an hour or two, almost entirely free from pain, and in the course of four or five days the disease was cured." He directs the patient to moisten the tip of the index finger, dip it into the powder and then rub it gently all over the tonsil. This is to be repeated every five minutes for half an hour and then once an hour for the rest of the day. After that two or three applications daily will complete the cure. He has succeeded with this treatment in some cases where suppuration seemed inevitable.—*Brit. Med. Jour.*, April 9, '87.

Treatment of Colds.—J. H. WHELAN objects to "coddling" colds, except in the very old, or very delicate. A person suffering from a catarrh should be warmly clothed and avoid draughts, but by shutting himself up in a warm room, by taking warm air baths and lowering medicines he only promotes the development of the exciting cause of the affection. There should be an abundance of light nutritious food, but spirits and tobacco must be avoided.

For medicines he relies upon belladonna, quinine and arsenic, relying almost invariably upon the following formula:

R. Quininae sulphatis, - - - - -	gr. xviii.
Liquoris arsenicalis, - - - - -	℥. xij.
Liquoris atropinae, - - - - -	℥. j.
Ext. gentianaæ, - - - - -	gr. xx.
Pulv. gum acaciæ, - - - - -	qs. m. ft. pill. xij.

Sig. One every three, four or six hours according to circumstances.—*Practitioner*, Mar. '87.

Diabetes.—M. MARTINEAU asserts in a communication to the Société de Therapeutique that he has cured sixty-seven out of seventy diabetic patients during the last ten years by a method of treatment suggested by a practitioner who is now dead. This is simply the administration of a solution of carbonate of lithia and arseniate of soda in aerated water to the exclusion of all other drinks. Besides using this with his meals, he takes it when thirsty at other times.—*Med. Record*, Apr. 9.

Ol. Pini Sylvestris in Chronic Bronchitis.—A. W. ROBSON reports excellent results in the treatment of chronic bronchitis with oleum pini sylvestris in doses of five minims every four hours. In some cases where relief did not follow in forty-eight hours the dose was increased to ten minims. In twenty-eight cases the cough was eased; in twenty-eight the dyspnea was relieved; and in thirty-eight cases the difficulty in expectoration was benefited. In only one case was there entire failure to benefit any of the symptoms. In two cases was complaint of a fiery taste in the mouth and hot sensations spreading over the whole body, and in one case the medicine was discontinued on account of its causing scalding urine and frequent micturition.—*Brit. Med. Jour.*, Nov. 27, '86.

OBSTETRICS AND GYNECOLOGY.

REPORTED BY H. S. BROOKES, M. D., ST. LOUIS.

Anesthetics and Post-Partum Hemorrhage.—DR. FORDYCE BARKER read a paper before the Medical Society of the State of New York, in which he took ground most strongly in favor of the use of anesthetics in labor. He prefers chloroform to ether as being less irritating, more agreeable, more rapid in its action and therefore capable of being used intermittently, and in less quantity. He claims that it oftener accelerates than retards labor. He has found patients who had been sent to him on account of a disposition to post-partum hemorrhage in former labors without anesthetics, to do better with chloroform. He does not regard heart disease as a contraindication, nor has he found chloroform judiciously used to exert any injurious influence on either mother or child. Others who took part in the discussion of the paper endorsed the author's views, Dr. B. F. Sherman, of Ogdensburg, remarking that where chloroform had prolonged labor once, it had shortened it ninety-nine times.

Care of Breasts after a Still-Birth.—PROF. PARVIN says that the milk in a non nursing puerpera will in all almost all cases, disappear, whether we do something or do nothing. If the breasts become painful, a mixture of equal parts of laudanum, sweet oil and spirits of camphor, may be applied warm, and rubbed gently over the breasts three or four times a day.—*Polyclinic*, Feb. 1887.

Hydrastis Canadensis in Uterine Hemorrhage.—R. W. WILCOX claims that *hydrastis Canadensis* is a most valuable remedy in the treatment of menorrhagia and metrorrhagia. He gives the fluid extract in doses of twenty drops three or four times a day, a wine-glassful in water, continuously in cases of fibro-myomata, sub-involution and hemorrhagic endometritis, and in other cases for ten days before and during the menstrual period.

In cases of uterine fibro-myomata, he says, that it checks the bleeding by the production of persistent anemia, unaccompanied by the distressing cramps of ergot or the flooding from the alternate contractions and relaxations.

He has found it successful in cases of endometritis fungosa, even where curetting had failed, and with its use it is not even necessary to confine the patient to bed.

Many cases in which there is subinvolution of the uterus and laceration of the cervix, with erosions of the cervix and profuse leucorrhea, in which it has been customary of late to perform Emmet's operation are entirely relieved by the faithful use of *hydrastis Canadensis*.

In the hemorrhages so often attendant upon the climacteric change he has used the same agent with success.—*N. Y. Med. Jour.* Feb. 19.

Mother's Milk.—SELDON B. SPERRY gives the following as the best substitute for mother's milk, in cases where substitution is necessary:

On a tablespoonful or more of granulated pearl barley is poured a pint of boiling water and allowed to boil for five minutes. For infants under three months one-thirds of a pint of fresh cow's milk and two-thirds of a pint of this barley water are mixed and sweetened with a tablespoonful of milk sugar. The barley water should be added hot to the milk, but the milk should not be boiled. He prefers the milk of ordinary cows to that of Jersey or other blooded stock. Only enough for the day should be prepared at once. It is well to add the sugar of milk to the barley water and put into a clean bottle and mix with the milk as wanted from time to time during the day. The nurse must be provided with litmus paper in order to test the milk when prepared. If not alkaline, it must be rendered so by the addition of lime water or bicarbonate of soda.—*Jour. of Am. Med. Assoc.*, Oct. 30.

A Case of Anencephalus.—DR. WM. C. WANAMAKER reports the following:

Mrs. A., æt. 25, primipara, was seen in labor. The first intimation being the passage of an unusual amount of liquor amnii, cervix dilated to size of a dollar, a soft flabby mass presenting felt like placental tissue, but further digital exploration disproved any connection between it and the uterus. No history of hemorrhage. One hour later entire vagina was filled by this peculiar mass. Violent contractions now came on causing a marked bulging of the tumor. Between pains finger passed beyond tumor when could be felt distinct bony ridges, which did not resemble any part of the natural fetus. A few more pains sufficed to expel this soft irregular mass which was larger than a fetal head at term, followed closely by a rudimentary skull, (to which tumor was attached, the vault of

the cranium being absent). The child was dead; face small and eyes prominent.

Tumor, which was attached to base of skull was incised, about a tablespoonful of hair matted, mixed with bloody fluid, escaped. The tumor resembled placental tissue. Smith, in his Treatise on Infancy and Childhood, states that the base of the cranium is often occupied by a vascular tumor continuous below with the spinal pia mater.

This vascular tumor is the representative of the cranial pia mater, and its smooth surface the analogue of the arachnoid, the dura mater and scalp being absent. The exposed mass resembles much in appearance and structure the placenta, and the sensation it imparts to the finger is very similar. Sometimes small portions of cerebral matter are found among the vessels of this tumor, but they are so disseminated that they do not perform the function of the brain. Occasionally the vascular tumor and the medulla or upper portion of the spine is exposed or terminates in a little papilla at the back of the neck.

Differential diagnosis, from placenta by absence of attachment, between tumor and uterus, by absence of hemorrhage, by detection of bony ridges of skull or attachment thereto.

PROGNOSIS.—If medulla oblongata is absent, still-birth is the result. If present, the child may live a few days and die with convulsions.—*Am. Jour. of Obstet.*

Cardiac Neuroses in Connection with Ovarian and Uterine Disease.—H. J. BOLDT, M. D., read a paper before the New York Academy of Medicine, in which he made the following observations. One of the most mysterious problems in the science of medicine is the subject of "Neuroses," under which head we describe symptoms or diseases originating in the nervous system, indicated by disordered volition, sensation or mental manifestation. Clinically the affection is frequent. Cardiac neuroses are functional affections of the heart, unaccompanied by inflammatory changes in the organ itself.

The term neurosis is faulty. Such troubles arise either in the cardiac ganglia, or are of reflex origin. These reflex cardiac disturbances present symptoms similar to those attended with organic lesions. Cardiac neuroses are present in about 8 per cent of all uterine diseases.

The abnormal action of the heart may be divided into four classes, 1, palpitation, 2, disturbance of rhythm (irregularity), 3, suspension of one distinct beat (intermittency), 4, angina pectoris.

Class 1 is the most frequent neurosis, being caused by the emotions.

Class 2 is caused by a modification of the rhythmic discharge in the cardiac ganglia, which, if accompanied by palpitation, is probably indicative of atrophic dilatation of heart, atheromatous degeneration of vessels, or both combined. This condition may be congenital, or the result of emotion, as passion, grief, joy, etc. Organic heart disease being eliminated, examination of reproductive organs is indicated.

Angina pectoris, the most painful of all neurotic affections, is of special importance as to diagnosis, whether symptoms are dependent upon organic lesion or of reflex origin, modifying both prognosis and treatment. In this latter affection patient is at times entirely free from pain. Then through some emotional cause there is an oppression about the heart, followed by faintness or even syncope, lasting a few minutes. The heart's action is feeble, at times irregular; we find painful spots over region of heart. In fact the symptoms so closely resemble the organic lesion that only an examination of the heart during the attack would exclude the heart lesion. The pain is often felt radiating down the left shoulder, arm and hand, in which formication is often felt. Perturbations ensuing from ovarian irritation, uterine displacements, and other pathological conditions in the reproductive organs, traverse a series of nerve fibrils of the sympathetic, taking their direction toward the heart, and manifesting themselves in one or more of the disturbances named. The prognosis is always good as regards life, and in many cases the functional disturbance may be cured by attention to the pelvic disorder. In chronic cases attention to the pelvic disorder alone will not suffice, systemic treatment being necessary, the diseased, misplaced organ being by medicinal or mechanical means restored, nervous excitability calmed by nerve sedatives. Ten illustrative cases were cited in which the cardiac neurosis, well marked, was relieved or cured by treatment of pelvic disorder. After an observation of 2000 cases the writer claims that 8 per cent suffering from pelvic disorders are affected with some form of cardiac neuroses mentioned. In many cases the patient complained only of the heart affection, presenting symptoms in no wise differ-

ent from cardiac neuroses dependent upon other causes. That grave organic lesion may be suspected by only a superficial examination, when the condition is but a nervous irritation, has been well illustrated by numerous citations of such cases. See Pepper System of Medicine, Vol. III, p. 750 — *Amer. Jour. of Obstet.*

Craniotomy and Cesarean Section.—DR. R. J. KINKEAD read the above paper at the annual meeting of the British Medical Association. The principal question suggested by the subject is whether the maternal mortality can be reduced to the level of that following craniotomy. Unfortunately statistics on the mortality after craniotomy are singularly defective.

Within a certain limit of pelvic contraction, and performed with ordinary skill and caution, craniotomy is the easiest obstetric operation. In a great degree of deformity, conjugate $2\frac{1}{2}$ inches, excellent authorities declare the Cesarean section preferable in the interests of the mother. Parry has found that with a conjugate of $2\frac{1}{2}$ inches craniotomy is not more successful than Cesarean section. Owing to delay and defective methods of operating, Cesarean section has been unnecessarily fatal. Lawson Tait favors Porro's operation. Dr. Burns, who formerly condemned Cesarean section, now admits that, if performed at a chosen moment, the probability of saving the mother and child might turn the scale in favor of that operation.

CRANIOTOMY STATISTICS.

Cause of Operation.	Percentage of Maternal Mortality.
Contracted pelvis, $2\frac{1}{4}$ inches and under (Parry).....	37.5
Pelvic tumors (Starfeldt).....	40.0
Ovarian tumors (Playfair).....	46.6
Ovarian tumors, no other treatment (Playfair).....	60.0
Carcinoma of uterus (Hermann).....	75

In the following statistics of Cesarean section many of the patients were moribund at time of operation, some in labor many hours, others in which repeated efforts to deliver by forceps had been made.

STATISTICS OF CESAREAN SECTION.

	Percentage of mortality.
1006 cases quoted by Barnes.....	46
130 " " Harris.....	56
32 " " Kinkead.....	62.5

In favorable cases operated upon within 24 hours after commencement of labor, 25 per cent died, a percentage far too high.

The causes of death from Cesarean section—shock, exhaustion, hemorrhage, peritonitis, septicemia, all but last condition, are increased greatly by delay.

As the shock of the operation is not greater than that of ovariectomy, which latter has been successfully combated, it follows that it can be successfully dealt with in Cesarean section. Hemorrhage is a more formidable antagonist, both during and after the operation, the prophylactics against which are early operation, ergot and styptics. Hemorrhage from uterine incision prevented by compression of cervix with either wire or elastic tube.

Trusting to contraction of uterus is placing reliance on a chance, security only obtained by satisfactorily suturing the uterine incision. Sawyer's method, approved of by Leopold, consists in dissection of peritoneal flaps, resection of uterine tissue so as to bring peritoneal flaps together, which process is really useless if the continuous catgut suture is used, whereby gaping is prevented. Uterine contraction can not separate the edges of the wound. Neither can hemorrhage nor lochial discharge enter the peritoneal cavity, nor can the intestine become incarcerated. The use of antiseptic catgut obviates the necessity of removal. Abdomen should be thoroughly cleansed. If the operation is performed before the vital powers are weakened, and tissues injured by protracted labor, with proper means for controlling hemorrhage, thorough cleansing of abdominal cavity, I have no doubt that it would be as safe for the mother as craniotomy, and considering the high probability of saving the child it ought to have a prior place to the only operation sanctioned by surgery, undertaken with the avowed object of destroying life.

Finally, the operation of extracting the mutilated remains of a child through a pelvis of $2\frac{1}{2}$ inches conjugate is one of extreme difficulty, requiring very great experience and an amount of unusual dexterity hardly to be acquired outside of large cities, while Cesarean section is an operation capable of successful performance by any surgeon of ordinary skill.

An interesting discussion followed by Drs. Lusk, Wilson, Swayne, Tait, Madden, Neville, Anderson, Cameron, Hough, Thompson, Edis, Wright and Barnes, in which the following opinions were advanced:

That under $2\frac{3}{4}$ inches (below the limit where premature labor and version were available) modern methods of Cesarean section

were preferable to craniotomy, the weak point being the gaping of the peritoneal wound. Porro's great merit consisted in doing away with the danger by the removal of the organ. Saenger reports 21 recoveries out of 27 cases. Saenger's, Porro's and Thomas' operations were not rival, but supplementary, Saenger's operation being performed after partial dilatation, Porro's where prolonged labor had impaired integrity of uterine tissue, Thomas', after dilatation when head was arrested at brim, with retraction of uterus above largest circumference of head. Within a period of 30 years these prominent obstetricians had operated upon but ten cases in all. Opinion expressed that craniotomy would soon be a rare operation. Where child had died, and delivery was impracticable either by version or forceps, then craniotomy was not only justifiable but proper.

The fatality of craniotomy was increased by the careless removal of sharp bones.

Some of the speakers had succeeded in delivering safely patients upon whom craniotomy had been performed in previous labors. No practitioner should attend a case of labor without insisting upon the necessity of ascertaining the conjugate diameter. If the diameter was such that delivery at full time would be impossible then premature labor should be induced. It was generally believed that Porro's operation, as now modified, would largely replace the repulsive operation of craniotomy.—*Brit. Med. Jour.*, Oct. 2, '86.

Alternatives to Craniotomy.—The above paper read by Dr. Robert Barnes, before the British Medical Association, gave the following: The more nearly we approach to the abolition of craniotomy the more nearly do we attain perfection in obstetric medicine. It is obvious that if all child-bearing women were healthy and well formed, the resort to craniotomy might be reduced to a minimum; further, if all fathers were healthy many more obstetric difficulties would be avoided. The factory act in England, limiting the hours of employment of girls has greatly diminished deformities, and the operations of craniotomy and cesarean section, whereas German museums are painfully rich in this field of deformity.

Tyler Smith stated (1859) that craniotomy was performed once in every 340 labors. In the practice of other eminent teachers the perforator was used more frequently than the forceps. Sacrificial midwifery prevailed over conservative midwifery. Now the scale

has turned, the forceps have largely supplanted the perforator. The old short single, covered forceps, which could rarely grasp the head effectively before it had descended into the pelvic cavity, could hardly be looked upon as an alternative for craniotomy. In the great majority of cases the question of craniotomy arises when the head is impacted at the brim or arrested above it, and not when it has descended into the pelvic cavity. The field of the perforator was then limited to cases in which the head was impacted at the brim or arrested above it, the short forceps to those in which the head had descended and to the pelvic cavity, but owing to the feeble and faulty construction of the latter, the perforator was often resorted to when the head had descended into the pelvis. Induction of labor stands first in the chronological order of operations, applied first before the child is viable or when the child is viable.

Assuming that the mother cannot bear a living child at term, by what rule shall we select the time? In a case of moderate maternal distortion, assuming that the fetus is normal, knowing that at term the compressibility of head is limited, we try to bring the head under the dominion of the forceps (with its powers of moulding and leverage) at an earlier stage of development when it is both smaller and more ductile, a point to be remembered, that a child, may be delivered alive at 39 weeks which would be lost at 40 weeks, owing to the fact that ossification of the cranium advances at an accelerated ratio during the last three or four weeks of gestation. Assuming that the pelvis is still further contracted, we advance as early as the thirty-sixth week for the provocation of labor, when our reliance upon the forceps becomes dubious, the space being too small to admit of their application. Assuming that the natural force will not expel the child, we resort to turning, which improvement has greatly enlarged the range of obstetric conservatism, being especially valuable as a means of accelerating delivery in induced labor. We thus find in the forceps and turning alternatives for craniotomy in minor degrees of disproportion, yet compatible with birth of a living child from labor at full term to induced labor at 31 weeks. Beyond this point the fetus is doomed, yet other questions arise. The fetus being dead the chief motive for seeking an alternative to craniotomy is wanting. Cesarean section before viability is hardly warrantable. Should we allow a woman whose pelvis is so contracted that she cannot bear a living child

per vias naturales, to carry a child to full term in order that its life might be secured by cesarean section at the peril of her own? Assuming that at this point there is a living child which cannot be delivered living through the pelvis, shall we perforate and save the mother from the perils of the attempts at natural delivery, or shall we take a real alternative to craniotomy, the cesarean section? If the time for election between these operations has gone by, and we are brought face to face with labor at full term, pelvis deformed beyond possibility of embryotomy with safety to mother, cesarean section is not an alternative but a necessity, the only operation. When we have a choice between two or more alternative operations, the operator resorts to that in which he is most skilled. Going back twenty years before Porro's modification of cesarean section and Tait's advances in abdominal surgery, results practically favored embryotomy. Considering the present advances in abdominal surgery and improvements in instruments for embryotomy, it remains to be found whether the increased safety to mother and child is such as to outweigh the increased safety to the mother by embryotomy. Arguments in favor of cesarean section are (1) that the child is not sacrificed; (2) that the mother has fair chance for recovery, especially if Porro's operation be adopted. After an attempt at embryotomy it is a grievous thing to be forced to adopt cesarean section, as the child's life is already destroyed and the mother's prospects seriously damaged. No allowance being made for either condition or operator, the mortality of cesarean section is 50 per cent, of embryotomy 30 per cent. Not considering the child, decision must be rendered in favor of embryotomy. In a case of dystocia, all things being equal, pelvic conjugate diameter 2 inches, which operation will give the greater security to the mother? Throwing the fate of the child and future immunity of the mother in the scale, we must decide upon cesarean section. But with a conjugate diameter of three inches embryotomy ought to give a mortality hardly exceeding that of ordinary labor. In the last condition cited we have it in our power to save the mother by sacrificing the child, the alternative will probably save the child with doubtful prospects for the mother. Are we justified in weighing the two combined probabilities in favor of mother and child against the certainty of saving the mother. The last two cases differ widely. Assent to the first does not carry assent to the last. Religion and civil laws claim a preponderating voice. In the

whole practice of medicine there is no situation of equal responsibility and solemnity. Is cesarean section with its modern improvements adequate to the reconciliation of the interests of both mother and child? If so the moral question is settled. Questions for consideration are danger of shock. Is there no difference between dividing the stump of an ovarian tumor and strangling and dividing the neck of the uterus? The shock is not comparable. Tait said that out of 100 Porro's operations he would not have a mortality of 4 or 5 per cent, but Tait demands 100 cases to give him the necessary skill. Ramsbotham, with an experience of 70,000 cases, from 1828 to 1850, had 85 craniotomies and 112 forceps cases. Six women whose children had been perforated died, also three forceps cases. Could cesarean section have given better results? That embryotomy in moderate degrees of deformity will save more mothers than cesarean section can hardly be denied, and more children too because in future pregnancies labor will be induced at seven or eight months, and both mother and child survive, so that the aggregate saving of maternal and infant life will surpass anything likely to be obtained by cesarean section.

In labor obstructed by ovarian or pelvic tumors, if an ovarian tumor be found to complicate pregnancy, the rule is to remove the tumor by abdominal section and let the uterus alone. When pelvis is blocked by irremovable tumors, Porro's operation is indicated. In cases of rupture of uterus, Porro's operation is the most rational whether the child be dead or alive. In cases of malignant disease of cervix, Porro's operation is especially applicable. In atresia or closure of os externum uteri, moderate incisions radiating from supposed site of os, dilated with water bags, seem, from successful results, the proper course. In occlusion of cervix uteri and vagina from cicatricial contraction, make radiating nicks, to dilate with water bags. In extreme cases make tentative incisions and resort to embryotomy.

In convulsions, now that we control such by chloroform and nitrite of amyl, the plea for craniotomy is gone. In hemorrhage it is rarely necessary to perforate. In placenta previa, detach placenta—dilata cervix by water bag, deliver by forceps or turn. When child is dead and there are obstructions to delivery there is no object in seeking alternatives to craniotomy. When the child is dead, embryotomy is justifiable when there is impaction of the child's body in shoulder presentations.

Craniotomy is justifiable when there is excessive hydrocephalus or other such deformity. Embryotomy is indicated when abdomen (child's) is of excessive size from dropsy or enlarged kidney or liver.—*British Medical Journal*.

Fifty Cases Lacerated Cervix Treated by Silkworm Gut Suture and Iodoform.—A résumé of the above, as given by the operator, Dr. R. Stansbury Sutton, states the following: Each patient prepared according to Emmet's teachings; sponges, ligatures, and instruments scalded immediately before operating. Lips denuded and approximated with silkworm gut sutures, the ends left long, the cervix covered with a teaspoonful of iodoform, patient placed in bed, no catheter being used unless patient fails to pass her water within eight hours. No douches used until the sixth or seventh days preparatory to removing the sutures. In forty-nine cases the temperature never exceeded 100° F. In one sepsis occurred; the temperature exceeded 100°F. In another a fistulous opening remained for a short time. In a third the lower stitch cut out. Any attendant who will obey orders will do as well as the best. No trouble has yet followed the free use of iodoform.

The next fifty cases to be treated with a chemically pure boric acid.—*Medical News*, July 3, '86.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The fifteenth annual meeting of this important Association will be held at Memphis, Tenn., Nov. 8-11, 1887.

The Executive Committee have selected the following topics for consideration at said meeting: "The Pollution of Water Supplies," "The Disposal of Refuse Matter of Cities," "The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements," "Animal Diseases Dangerous to Man."

Persons purposing to write papers for presentation at this meeting will do well to obtain a copy of the preliminary circular containing the by-laws adopted by the executive committee with reference to papers. These, as well as blank applications for membership, can be obtained by addressing the secretary, Dr. Irving A. Watson, Concord, N. H.

The local committee of arrangements at Memphis have already well advanced the work of preparation for a large and successful meeting. We anticipate a very pleasant and profitable one.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated meeting, March 17, 1887, Dr. Coles in the chair.

PUERPERAL MEASLES—HEART CLOT—DEATH.

Dr. Hulburt.—Mr. Chairman, I desire to present the following case:

K. H., æt. 19 years, single, admitted to Hospital Friday evening, February 26, 1883, for preg. primip. Delivered March 7, 1883, at 4:30 p. m., of a girl baby, 5½ pounds. O. L. A.

Labor normal; secundines entire; uterus well contracted after delivery. I found the perineum was hard and infiltrated, covered with condylomatous growths, extending around and back of anus. The skin was of a dark color. During the passage of the head the perineum was torn to the sphincter. I stitched it together, though having very strong doubts of its uniting. She denied any specific history; but certainly the appearance and condition of the perineum would indicate that she had syphilis.

March 8. Has fever this A. M. Nausea with vomiting. No pains; uterus well contracted. Has an erythematous, mottled eruption strongly resembling measles on neck, breast and arms. She states that she has the same character of eruption whenever she has fever or gets heated and perspires, and that she had measles when 10 years old. She has been in bad health ever since her admission and for some time previous. Has had chills, fever and constipation for two weeks before delivery, was feverish at time of delivery.

Her general condition is very bad. Quinia sulph. Hot carbolized douches.

P. M. Pulse, 150; temperature 103°. Says she feels comfortable. Pulse weak. Has not been able to take any nourishment. The eruption which was confined to breast, neck and arms has be-

come more extensive, and is on face and body this evening. Nose, eyes and lips are suffused, presenting the classical appearance of measles. No pain. Uterus hard and small. Digitalis, quinia sulph. Hot carbolized douches.

March 9. A. M. Pulse, 150; temperature, 103.6°; says she feels well, but the anxious, frightened look presented by her appearance belies the statement. No pain; no tenderness on pressure. Uterus hard. Rash fading away from arms. 12 M. Fluid extract veratrum viride every hour guarded with alcohol. At 4 P. M. her pulse was 120, temperature 103°. Nausea; veratrum given up, not affecting the heart as desired. At 8 P. M. pulse had gone up to 140; temperature 103.8°. Still nausea. With a vain hope of having some effect on the heart, which was of fair quality in force, and to produce diaphoresis, tincture of aconite root m. ij was ordered. Stimulants and concentrated food had been given at such times as she could be induced to take them without worry. A dose of the aconite was administered, and immediately (5 to 10 minutes) afterwards she was placed upon the douche pan for the purpose of the hot douche. While receiving this, the operation having been in progress possibly 2 or 3 minutes, she was suddenly seized with shortness of breath, coldness and cyanosed color, evidently struggling for air. I arrived at her bedside within 5 minutes of the attack; and found her unconscious, rigid, cyanosed, with froth at mouth, and pulseless. She gave two gasps and was dead, at 9 A. M. Autopsy, two hours after death, revealed the pelvic organs in a normal condition for a recent birth; no evidence of inflammatory action about the parts. The abdominal viscera were congested; the lungs normal. The heart was arrested in systole. In the left ventricle, intimately interwoven among the chordæ tendinæ was found a heart clot, whose central mass was as large as the thumb, of a pink-white, spotted or mottled color, of firm consistence, elastic and separated from among its attachments only by rupture of some of its branches. It evidently was fibrin and blood mixed, mostly the former, or a clot that had been some hours in forming, which formation had progressed slowly but steadily. The brain was not examined. Nothing was found in any of the veins leading to or from the heart but fluid blood.

The question that came into my mind in regard to this case was, as a matter of course, whether this patient really had measles or not. The condition of affairs in the lying-in ward at that time

would rather support the idea, notwithstanding her assertion that she had measles ten years before. There were three patients taken with measles in the hospital in that same division, and shortly after her death there was also another patient, who was delivered in the same division, that had an unquestionable attack of measles, and died about ten days after her delivery. So I feel rather positive that the eruption that appeared on her was an eruption of measles; it certainly had that appearance. As to the cause of her death, I don't know whether it was due to the aconite or the hot douche, or to her disease. I gave a certificate of death from heart-clot.

Dr. McPheeters.—How long after delivery before she died?

Dr. Hulbert.—She was delivered March 7, and died March 9, three days after delivery.

Dr. Moses, Sr.—This is a very interesting case especially on account of the singular condition of the heart. I don't know whether I am right or wrong, but it is my opinion that when the pulse rises to 130, 140 or 150, it is because the heart's action is weak, that the muscular tissue cannot control, cannot act fully upon the contents of the heart and expel its contents; and this clot is not the result of too much but too little power of the heart to expel the blood in it. Therefore, without speaking from experience, instead of giving her depressing remedies under these circumstances, I would give her stimulants, I would give her tonic remedies.

Dr. Hulbert.—I would like to hear from some of the gentlemen in regard to their experience as to the deleterious effects of the hot douche.

Dr. Engelmann.—What was the condition of her general health?

Dr. Hulbert.—Her general health was very bad.

Dr. Engelmann.—It is not necessary to look to the disease as the cause of death, if we have a condition of that kind, and the labor coming on under those unfavorable circumstances, a very little will stop that heart, perhaps weakened by mechanical troubles, pulmonary or renal. Any renal trouble in that case?

Dr. Hulbert.—No sir.

Dr. Engelmann.—But as to the heart-clot being the cause of death, it might not have existed before death; of course it may have terminated life, but the condition of the system, the condition of the blood and the heart would have led to that. And I have no great belief in the heart-clot. I have never seen it, and

that is saying a great deal; because for three years I saw the post-mortem examinations and followed them in large lying-in institutions; and the subject was one of interest, because by many great stress has been laid upon that; and at least the most expert observers seem to look upon those formed in the heart as decidedly post-mortem. I do not mean to say that they do not occur, but I have not seen them. In the obstetrics of a few decades ago we heard a great deal more about heart clot than we do now, and the reason is very clear. It was a simple method of explaining the death satisfactorily to everybody, but we are now beginning to differentiate; and we are in a position to be able better to judge of the cause of death than we were then, consequently many of the deaths assigned to heart-clot we can now refer to their proper cause.

Dr. Coles.—In the description of this clot given by Dr. Hulburt I should say that it was not a post-mortem clot, it was too consistent; the clot which is post-mortem is a simple clot.

Dr. Frank Glasgow.—I should like to inquire in regard to the symptoms of clot, whether they all come on suddenly; we know that when a clot is in the pulmonary artery, the symptoms come on very suddenly; but when the clot is in the heart, to the best of my recollection, they come on more gradually.

Dr. McPheeters.—Where the patient's death is sudden, it is more apt to be from clot in the pulmonary artery than in the heart itself.

Dr. Prewitt.—In regard to Dr. Hulburt's case I do not think the hot douche had anything to do with the death. The woman had a pulse of 150, and she had quick respiration. She had a temperature of 103° and over, and we don't need to invoke the hot douche as the cause of death, but I think from the history which Dr. Hulburt gives that very likely it was a heart-clot. So far as these heart-clots are concerned, we know they generally occur in cases where there is low vitality, where there is a depraved condition and a feeble pulse, cases of typhoid fever for instance, where the blood is in a vitiated condition and the circulation is bad, the blood is not carried along vigorously. Now, in this case the woman's condition was bad, and the very rapid pulse would indicate that there was probably something wrong about the heart's action.

Dr. Engelmann.—In what position was the douche given?

Dr. Hulburt.—She was lying on her back with buttocks raised.

Dr. Prewitt.—It was not a uterine douche, but a vaginal douche, as I understand it.

Dr. Hulburt.—Yes, sir. I should like to make one or two points in regard to the use of veratrum viride. I have used veratrum viride very extensively. At the time this case occurred I was very largely influenced by the views and writings of Fordyce Barker, whose work on Puerperal Diseases most of us have. When I first took charge of the institution, the first six months that I was out there, we were struck with an epidemic; we had erysipelas, measles, septicemia and puerperal peritonitis, and I used it very extensively in those cases. I have given three minims of the fluid extract of veratrum viride to a patient who had a pulse all the way from 120 to 140, with the effect of reducing the pulse down to 80. I have in my mind one case of a young girl suffering from puerperal peritonitis, a typical case of puerperal peritonitis with a pulse in the neighborhood of 130 or 140, temperature 103.4°, in which I gave three minims of the fluid extract of veratrum viride every hour until I got its effect. I brought the pulse down to 70 or 80; it didn't influence her temperature except, possibly, a fraction of a degree. The influence of the drug outside of the effect it has in bringing down the rapidity of the heart's action unquestionably is a depressing influence.

Dr. Scott.—In regard to the case which the doctor mentions as having died at the hospital, Thomas, of Leipsic, says that whatever has a tendency to slow the action of the heart in all fibrinous diseases has a tendency to the formation of heart-clot. In a most admirable article which he wrote in Simpson's Cyclopaedia those are his very words. I think that the use of veratrum viride in that case hastened to a certain extent the slowing of the heart's action and formed a heart clot, taking Thomas, of Leipsic, as authority in the case.

DR. HENRY LEFFMANN, editor of *The Polyclinic* (P. O. Box 791, Philadelphia), desires to obtain results of the new treatment of Pulmonary Consumption and Phthisis by gaseous enemata, for publication in *The Polyclinic*. The correct therapeutic value of this method can only be arrived at by the collection of statistics, and he therefore requests any one who has administered the gas to communicate the result to him, the formula used, and any special information that may be useful. We trust that any of our readers who have tested this mode of treatment will comply with the above request.

ST. LOUIS MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 14, 1886. Dr. Tuholske in the chair.

STRANGULATED HERNIA—EXSECTION OF INTESTINE.

Dr. Carson presented a specimen of more than ordinary interest removed that morning from the abdomen of a boy between 12 and 13 years of age. Vid p. 501.

Dr. Tuholske asked if *Dr. Carson* noticed upon the intestine any signs of peritonitis?

Dr. Carson answered that around the site of extrusion for a short distance he did notice just a little redness, no real inflammation: the rest of the peritoneal cavity was apparently healthy. The bowel above showed the primary evidence of an interrupted circulation. Below it was of a wine color for some distance.

Dr. Tuholske asked whether one wall simply was caught in the ring.

Dr. Carson said he could not tell whether the opposite wall of the bowel was constricted—or at least whether the constriction of that wall was complete. He could not pass his finger beyond it. He put his finger into the opening in the bowel, and made the attempt. Upon examining the specimen he could not make out that the entire calibre of the bowel was included in the constriction, but the obstruction was complete.

Dr. Tuholske remarked that that would make a decided difference in the case. If the contents of the bowel could pass by the constricted portion and only one wall of the bowel was constricted, the reparative process would simply cut off that piece and permit the complete reparation of the canal. The case was a remarkable and rare one. He did not remember one in which the bowel was not simply strangulated but at the same time agglutinated. If there is enough obstruction to cause strangulation, then there is death of the part. If there is not enough to interfere with the circulation, we would probably not have any symptoms of strangulation. As far as the treatment of the case is concerned, there was nothing else to be done, unless there might possibly have been a restoration of the canal, a chance on which we have no right to count. If the bowel was not gangrenous above the point of the internal abdominal ring, that might in fact have readily taken place.

If we find a strangulation, a piece of bowel being caught in the internal abdominal ring, and we relieve the constriction and find that the gut is adherent there, while the extruded portion is gangrenous, we strike really the most favorable condition of affairs. The bowel will not slip into the abdomen, and there will be no danger of extravasation of fecal matter into the belly, the gangrenous portion will be sloughed away and the bowel fixed.

There are several questions connected with the case that are quite interesting. First, the question comes up, what cases are they in which it would be the proper thing to make a laparotomy for abdominal hernia? He considers it is not the proper thing when we know the protruding mass to be distinctly gangrenous. In that case we do not want to open the cavity and put the intestine back, because if in the efforts to crowd it back we simply make a little hole in the bowel we will have extravasation; and if the bowel is gangrenous, we do not want to pull it out. But if we find a case in which we should be willing to try taxis, in such a case it would be legitimate to open the abdominal cavity and try to pull the bowel back into the cavity. In a case that he reported a month ago, he found no difficulty in pulling the bowel out of the inguinal canal after making a laparotomy. He thinks it would be hazardous to perform resection if peritonitis be spreading along the bowel some distance. As far as the sewing together of the bowel is concerned, he thinks there is little difficulty in putting the needle between the peritoneal and muscular coat, or muscular and mucous coats, and in doing so, you get quite a good, broad surface for peritoneal adhesions. In the case reported the other night adhesion took place immediately, but he had observed the precaution, not only to make the sutures, bringing the margins together, but to roll the bowel in to a certain extent and take a double row for a short distance. The amount of peritoneal surface is thereby considerably increased and the union is much more likely to be good.

Dr. Carson said before he opened the abdomen he considered the propriety of enlarging the ring and relieving the constriction and trusting to the forming of an artificial anus, but the constriction was so great and the condition of the part such that he was afraid to trust to nature in that direction, and thought it best for the welfare of the patient that the abdominal cavity be opened and the intestine excised and put back. After opening the abdominal cavity he again considered the propriety of bringing the intestine out and

sewing it to the abdominal wall and making an artificial anus, but the appearance was such beyond the constricted portion of the bowel that he concluded it was best to bring the ends together and avoid in that way an artificial anus, which under all circumstances is very disagreeable. A very interesting case of that kind occurred last year—a man came from the country whom he saw with Dr. Gregory. The intestine had protruded and opened into the scrotum, which, when they saw him, was as large as his head. An opening was made into this through which fecal matter escaped, and an artificial anus was established which they could not close. Later he tried to occlude the portion of bowel and the patient died from peritonitis.

Stated Meeting, March 8, 1887, Dr. Leete in the chair

UTERINE FIBROMA—OPERATION—DEATH.

Dr. Gregory.—Mr. President, I have before you here a mass embraced in the substance of the uterus and occupying its entire cavity, so-called fibroma. It has the usual history, it lasted five or six years, during which time the patient suffered with hemorrhages, and was treated in the usual way with ergot, etc., and from time to time consulted her doctor, and was advised to let it alone. A year or more ago I told her to let it alone, because there were no urgent symptoms. She returned again this year with her physician, and had persuaded him that it must be removed; and I was urged to remove it against my expostulation. I don't say this because the case turned out disastrously, but I should have said so had the case been successful; and yet, when I look at the mass, I am satisfied that it was the proper thing, and it was perhaps the best thing to be done under the circumstances. The uterus measured seven inches or more in depth, and extended to the umbilicus, and filled to a great measure the lower middle segment of the abdominal cavity. The woman seemed to feel that she had a burden upon her that was more than she could bear. She suffered very little pain, but for about three months had had frequent hemorrhages. She looked pale and as if she had lost too much blood, and she was determined to have the trouble looked after by opening the abdomen.

The abdomen was opened with her understanding of all the uncertainties incident to it, because I am one of those who believe that nearly every abdominal section is a sort of exploration, we

scarcely ever know definitely and accurately what we are going to meet in the abdominal cavity when opened; we only approximate. I thought this was a fibrous tumor, and I thought there was a cavity, because it gave to the fingers the sense of that peculiar molecular movement which we call fluctuation, and I felt almost certain that there was fluid in the centre of this mass, yet I was satisfied it was a fibrous mass and that it was directly connected with the uterus.

The removal was simple and ordinary, nothing novel in it. The incision reached to a point an inch or two perhaps beyond the umbilicus, and the finger was slipped under the fundus; there was no adhesion, and the uterus stood up straight, as it were, and an ordinary Tait clamp embraced the mass, as we supposed, about opposite the internal os, and a circular incision was made above it about the junction of the middle third of the mass with the inferior segment or third. This incision passing completely around the mass and in a large measure enucleated it. After its enucleation we had before us an excavated surface with more or less fibrous material which was trimmed off. It was thought proper to draw this excavated mass together by putting in deep catgut sutures at the bottom and continuing them up to the border of the excavated mass, and then closing the peritoneum over the stump, but when this was completed, the hemorrhage was so great that it was thought proper to again tighten the clamp and cut off this mass, and control the hemorrhage by what is called the extraperitoneal method. The operation was as successful as any operation that was ever performed, but, strange to say, the patient died.

A few years ago you would have expected the patient to die; and if anybody reported a case of recovery, it was extraordinary. Now you expect a patient to get well; and it is incumbent upon the operator to tell why they do not get well, when they die; and we almost think, when they die, that it is our fault; they ought not to die, and sometimes we almost expect that we have poisoned them when they die. Occasionally I hear men say that the patient was poisoned with carbolic acid or iodoform. Certainly we have breaced a marvellous point in surgery when people are expected to get well from every sort of surgical operation that we venture to do, and we almost feel, when they die, that there is some fault in the method, that there is some fault in the agencies which the rising generation of the profession believe are almost absolutely cer-

tain to produce exactly the results that they want. But unfortunately this was a fatal case; I am non-plussed; I am astonished. The day after the operation the patient seemed to be doing as well as usual, the second day we supposed she was doing better, the third day the symptoms looked rather ugly, and she died, I think, on the fourth day. She was operated upon on Saturday, and she died on Thursday morning. This is an interesting specimen. Gentlemen who are interested in these matters can examine it, and I think they will agree with me that it is worth bringing to your notice. One of the most interesting features is a small polypus in the cavity of the uterus, which is supposed to have kept up that gentle oozing of blood; a little polypus out of all possible reach. I don't think the woman could have lived but a little while had the operation not been performed, but I suppose it hastened her death; yet I think it was right.

Dr. Engelmann read a paper on "The Polar Method of Electricity in Gynecology." Vide p. 487.

Stated Meeting, March 22, 1887, Dr. Todd in the chair.

DISEASED OVARIES—REMOVAL OF OVARIES.

Some weeks ago an ovary was presented here by Dr. Carson, which he had extirpated for a grave neurosis in a female. This ovary was handed to Dr. Bremer for the purpose of examining it microscopically. Another ovary was in his possession, of which he had made microscopical sections a long time ago. This ovary was removed with a similar purpose in view. In the case operated upon by Dr. Carson there was hystero-epilepsy, whereas in the other case mentioned, the organ was removed for neuralgia of the ovary in an hysterical patient. The examination of such ovaries is of great practical importance. There are two classes of gynecologists: the one asserts that even the removal of a healthy ovary is justifiable, if it can be demonstrated that there is a certain causative connection between pain in the ovary and an existing neurosis: the other class asserts that it is only ovaries in a state of degeneration that ought to be removed. The ovary which was removed for hystero-epilepsy by Dr. Carson was a myoma. Myomata, as a rule, do not cause pain; but there is a certain class of myomata—those in the skin—which cause excessive pain. These are sometimes erroneously called neuromata.

About a year ago he had examined for Dr. Hardaway such a myoma—a painful tumor of the skin, pressure upon which elicited paroxysms of the most violent pain, and the pain would even start spontaneously. Why these myomata are so exceedingly painful has not been explained. He thought at one time that it was possible that the nerves accompanying the vessels, the vaso-motor nerves, were sensory in character at a certain time. We know that the nerves of the intestine, for instance, can become highly sensitive under certain conditions, and in diseased conditions of the intestines it is difficult to determine what nerves cause the pain. He had made an experiment by chloroforming a frog and exposing the femoral artery, then allowed the frog to come to, and irritated the artery with a powerful stimulant, the faradic current, and there was not the slightest reaction on the part of the frog. That shows that the nerves of the vessels are only centrifugal in their function and not centripetal; that they are purely motor and not sensory. The ovary is supplied by the plexus of nerves coming from the uterine plexus and the spermatic plexus; they are medullated and non-medullated, or as such they are described; but he had not seen a single nerve in his preparation. We can comprehend how it may be that in the skin, which is a highly sensitive organ, a new growth can evoke a great deal of pain, but how the ovary which is very poor in nerves can yet be capable of giving rise to such excruciating pain, is a matter which cannot be very easily explained. There is one explanation, however: the pain may not be located in the ovary at all; Charcot, for instance, claims that in all painful conditions of the ovary the pain is not in the ovary itself. It is believed that in the great majority of cases the seat of pain is not in the ovary, but is centrally located in the lumbar swelling or the posterior roots of the nerves that emanate from the lumbar swelling. At all events, a great many ovaries have been removed from women that were suffering from neuralgia, and the ovaries were found to be entirely normal. In ovary number one, the one which Dr. Carson removed, there is a peculiarity which also prevails in the myoma examined for Dr. Hardaway, and that is this: the smooth muscle fibres are not proliferated from the muscle fibres which are normally met with in the stroma of the ovary, but are derived exclusively from around the vessels. For some reason or other, probably due to nerve influences, the arteries commence proliferating; the individual muscle spindles divide; they grow; they

expand; they invade the tissues and supplant them; they displace the germinating layer and the whole stroma of the connective tissue, and displace everything; and it is in this way that the myoma is generated. Now it is a peculiar fact, and one which may be very important in coming at a future time to a conclusion, that in the painful tumor of the skin examined with Dr. Hardaway and this tumor there are the same conditions, a proliferating of the arteries and the production of the myoma in that way. The arteries in the ovary pursue a very tortuous course normally. The individual muscle cells are characterized by invading the neighboring tissues and supplanting everything else.

There was another peculiarity, namely, what he had designated, for want of a better name, a vitreous swelling of some of the arteries; they have a glassy appearance; some of them in a state of proliferation of the muscle fibres. The muscle cells are wide apart, and the intervening space is filled with a substance with a peculiar glassy appearance. What that means he was unable to say. He had never seen it before.

Ovary number two was removed after Tait's method from a woman who had suffered most excruciating pain for a number of years with short intervals. These pains increased both in frequency and intensity; the ovaries were perhaps one half as large as normal ovaries, and showed a commencing cyst. Whether this cyst had anything to do with the pain or not, of course he was unable to say, but there are certain peculiarities in this ovary also. Whereas in the first ovary there was active proliferation of the cells of the vessels, giving rise to the myoma, thus constituting a true hyperplasia; there is in the other simply an increase of size of the individual muscle fibres. Whereas there is in one a proliferating—a numerical increase, there is in the other simply hyperplasia of the fibres. The walls of the arteries are considerably thickened, and we find a peculiarity which too is very rare. In the thickened wall with the vitreous swelling you will see large transparent bodies representing the endothelium in a swollen state. There are some vessels which are entirely blocked up by these masses of swollen endothelium, thus preventing the flow of blood to the parts. In others there is a blood clot, and the endothelium surrounding this blood clot.

Dr. Gehrung said he would refer to the specimens only so far as they bear upon the subject of extirpation of the ovary, which is

frequently accused of being the cause of these obstinate symptoms, and is even extirpated therefor, and in many cases no disease of the ovary is found; still it is claimed that they had been the cause of the neurotic symptoms. He had frequently found in cases where the pain had been located in the ovary by the patient and perhaps by the physician who had examined the patient and proposed to extirpate the ovaries, that the pain was not really caused by the ovary, but by the uterus—there was perhaps a displacement of the uterus, so that it was dragging upon one side or the other, and, upon relieving this condition, the ovarian pain was completely relieved. Whether these changes in the ovary are really pathological, or merely different modes of progress from beginning to end, was more than he could say. He thought, however that many of these so-called pathological processes are only the natural life of the ovary, and that this life may in different individuals pass through a different series of phenomena. It is doubtless true that in many cases the extirpation of the ovary has temporarily at least relieved the pain, even though the ovary removed was found to be perfectly healthy. Whether the relief was due to the shock done to the nervous system or the system in general, or produced the effect in some other way, are questions not yet settled. Then again diseased ovaries exist without the least pain or disturbance. So he thinks the conclusion that a pathological ovary must cause this corresponding series of phenomena is premature.

Dr. Carson remarked that there was one feature of the specimen that had not been mentioned, and possibly in all these cases the trouble could not be referred to the ovaries. At the extremities of the fimbriated extremities of the tubes there were little granular bodies about the size of a millet seed, especially upon the left side, the right ovary was the larger, being about four times the normal size, while the left was slightly if any enlarged; but on the left tube, which was the largest and sausage-shape—on each fimbriated extremity were little whitish granular bodies, which *Dr. Bremer* said under the microscope appeared like particles having undergone fatty degeneration. On the right side they were not so marked: still there was on each side of the fimbriæ these little bodies. Now whether the pain in these cases is due to the ovaries or to the fimbriated extremities of the inflamed tubes, is a question. These two extremities coming in contact with the ovaries, especially at the menstrual epoch—and at these times the patients suffer more

than they do at other times—may cause the pain; and all the symptoms seemed to him to indicate that we might look for a certain amount of trouble at any rate from the deposit at the fimbriated extremities. He had never seen, nor had he been able to find any account of a similar condition in any other case. The termination of this case was unfortunate. It progressed favorably for the first five days. At 8 o'clock in the evening all seemed to be well; he was called again at 10 o'clock and found her dying. They were unable to get a post-mortem, the father objecting and taking the patient from the hospital immediately, so that they were at a loss to account for her death; there was no evidence of abdominal trouble until just before her death, when there was some distention. The pulse, which was rapid before the operation, increased after and remained between 130 and 140 until just before her death, when it increased so much that it was impossible to count it; the temperature was below 101° until a few hours before her death, when it rapidly rose. He had advised against the operation, and only after consulting with several well known gentlemen, did he consent to undertake it.

Dr. Gehrung did not wish to be interpreted as saying that all ovarian pain is uterine, merely that many cases where there is pain, if followed closely, would be found to be uterine. There are certainly many cases where there is actual ovarian pain and ovarian disease, and the pain is due to the ovarian disease, but very frequently the pain is attributed to the ovary when it is in reality due to troubles located in the uterus.

Dr. Hardaway, referring to the case mentioned by *Dr. Bremer*, of multiple myoma of the skin (vide *American Journal of the Medical Sciences* for April, 1886), said: This man had a limited number of small tumors of the skin in the region of the back, evidently entirely limited to the skin itself. He didn't know that he had ever seen in another such agony as this man suffered on the mere pressure of the finger upon these tumors. At times also this pain was spontaneous; at times he would wake up at night suffering acutely. When he first saw the case he very naturally thought them neuromata, and was very much surprised, when an examination was made, to learn that not a vestige of nerve tissue was found. This patient seemed to get some relief from galvanism. Whether a mental effect or a real one he would not pretend to say. Certainly after using a galvanic current a number of times the pain dimin-

ished materially. Whether it recurred again he could not say, as he lost sight of the patient very soon after.

Dr. F. A. Glasgow.—The appearance under the microscope reminded him of the condition in some sarcomata, viz., a proliferation of the walls of the vessel as well as the vessel itself, and extending outward from the vessel; but in these cases there is a proliferation not only outward but inward. In some cases he had seen the lumen of the vessel entirely closed by small cylindrical cells resembling exactly this muscular coat of the vessel, but he had never seen this hyaline or colloid change of the endothelium of the vessel.

Dr. Bremer said he had examined the peculiar bodies that were attached to the fimbriæ. They were nothing but fatty degenerated endothelium. How this degeneration had come about he did not know, but he did not believe this had anything to do with the pain that existed in the ovaries during the life of the patient. As to the second ovary, the one that was removed for extreme pain, he remarked that there are two indications for the removal of an ovary. It is either for the purpose of taking away a degenerated organ causing a constant irritation, pain or spasm, or secondly, with the vague hope of inducing such changes as we know are naturally brought about in disease of the genitals at the climacteric. This operation was performed with the latter view two years ago by Dr. Bernays, and he was kind enough to furnish the ovary for examination. The pains disappeared as if by magic, but on the tenth or twelfth day a parotitis commenced, showing that there is a similar mysterious connection between the ovaries and parotitis as exists between the testicle and parotitis. The pains have remained away up to the present time. The woman has menstruated regularly, showing again what has been noted before, that ovulation and menstruation are independent functions, and that one may exist without the other. A letter received from the husband a short while ago stated that the patient was getting along pretty well, and had grown immensely fat; these pains had stayed away and there was no change in her other condition. The whole train of hysterical symptoms which she had before still persisted, neither diminished nor increased.

Dr. Spencer read a paper on

SUPPURATION OF THE TYMPANIC ATTIC.—(Vide *MAY COURIER*, p. 385).

Dr. Shapleigh said his experience in connection with inflamma-

tion of the attic of the tympanum had been very slight, having seen in his own practice but one or two cases, and in general he concurred in all that Dr. Spencer had stated. Certainly the disease is very intractable, and a satisfactory result is only achieved after a long course of treatment with patience and perseverance. In regard to one statement, he thinks perhaps an additional reason may be offered, viz., the infrequency of mastoid complications in America as compared with Europe. He had also noticed that polypi are much less frequent here. He thinks that in Europe we see twice or three times as many cases of polypi of the ear as we do here, and that may explain why it is so much less often necessary to operate on the mastoid, as these polypi offer an obstruction to the free escape of pus confined within the cavity of the middle ear. Strumous diseases, the low forms of disease, are more prevalent in Europe than they are here.

Dr. Jones observed that cases had been reported by a continental surgeon where, in chronic suppuration of the middle ear, he had detached the stapes from the incus, and, in his words, "the results were very brilliant." *Dr. Jones* thought that if *Dr. Sexton's* idea was followed out it would be a very good one to remove the incus from the attic, and even *Dr. Sexton* had recommended that this be removed when the lower portion of the membrane had been destroyed. He himself thought that if it was done earlier, it would be better. Then perhaps the stapes would not be necrosed and the patient would have very good hearing.

Dr. Dean presented some specimens illustrating very nicely diseases of the middle ear, and in one case the destruction of the attic. The first case was in the hospital in 1877. There was necrosis and suppuration of the mastoid cells, and near the apex there was an opening externally into the sterno-cleido-mastoid muscle and into the lateral sinuses and also an opening into the attica. A probe passed in three-quarters of an inch at least. The part that had disappeared was on the anterior aspect of the petrous portion of the bone, something like an inch in length as the disease had burrowed under the prominence of the superior semi-circular canal. This patient died of septicemia. The other was a case in which the necrosis had not extended into the lower part of the mastoid, but in the roof it extended upward and outward, backward and forward, that is, there was a complete disappearance of the whole base of the petrous portion, except the edges separating the supe-

rior petrous sinuses, not more than a line in width at its base. Suppuration had gone on in the sinuses under the dura mater. Necrosis had also extended through the roof of the external meatus; but in this case the tympanic membrane was apparently intact, and even after maceration some time the hammer still remained and the incus, with the exception of the long process which had disappeared, leaving the stapes free and even the head of the stapes in place. There was also an opening of an inch at least in diameter. There was an opening over the external meatus and behind it, and still further there was burrowing under all the muscles attached to the mastoid process and under the recti muscles and also posterior to the stylo-mastoid opening. There is an opening there half an inch in length, perhaps more; that opening connects with the symphyses of the temporal and occipital bones. There was also a suppuration running down some distance in the sterno-mastoid muscles. In this case there was salpingitis, meningitis and septicemia.

Dr. Prewitt said he had recently had two cases of abscess in the mastoid region. One was in a man about 38 years of age who had been under treatment two or three months, first for neuralgia. A month or six weeks later he was treated by another physician in the southern part of the city and *Dr. Prewitt* was called to see the case. There was a swelling behind the ear, extending down the neck. He cut down upon the mastoid process and found quite a cavity; caries of the bone had occurred at that point; there was no necrosis of the bone, but there was quite a cavity. He made a counter opening for drainage between that and the junction of the clavicle and scapula, emptying out a large quantity of pus, and subsequently he gouged out the cavity of the mastoid process with a very good result. The second was in a boy four or five years of age. There was also inflammation behind the ear which had run on for some time without the nature of the trouble being realized. In this case he cut down to the bone. There was no communication with the mastoid cells so far as he could determine but pus had formed under the periosteum. In neither case did there seem to be any trouble in the ear proper. The inflammation was in the mastoid process.

Dr. Spencer said that the cases *Dr. Prewitt* had reported were exceedingly rare. Mastoid cell trouble pure and simple does not usually occur unless accompanied and complicated with trouble in the middle ear.

Dr. Funkhouser remarked that there is great ignorance on the part of the laity in regard to this trouble. People who are fairly educated and who seem to be impressed with the importance of attending to ordinary hygienic surroundings do not seem to be alive to the seriousness of these ear troubles. About a year ago he had a case of polypoid growth which he removed. He had considerable trouble with the child, and was very positive in his remarks and also in his treatment to impress upon the parents the necessity of treating this trouble, but they concluded to change doctors and called in a homeopath, who told them to leave the ear alone, and that he would cure the patient by giving medicine internally.

PEROXIDE OF HYDROGEN.

Dr. Todd referred to some specimens of necrosed bone, taken from the nasal process of the right superior maxillary and the inferior turbinated bone, which he presented at the last meeting. He had treated the case for a number of years by syringing the cavity with peroxide of hydrogen, using it in full strength as it comes from the drug store, and it certainly helped to keep the cavity clean. He asked if any of the gentlemen had used the peroxide of hydrogen in washing out cavities, and, if so, whether they had found any real advantage in it.

Dr. Frank Glasgow said that some physician at the A. M. A. meeting last spring, mentioned that he had used it in an abscess cavity of the pelvis with great success.

Dr. Todd thought the only advantage which he had seen from its use was in the fact that it seemed to cleanse the parts pretty thoroughly.

MICHIGAN STATE MEDICAL SOCIETY.

LANSING, MICH., May 13, 1887.

EDITOR COURIER.—One hundred members of the State Medical Society, attended the opening session of its annual meeting in the capitol building in Lansing Michigan, May, 11. A subtle odor of drugs pervaded the corridor, and the audience included nearly a dozen lady members of the profession.

The President, Dr. Charles Shepard, Grand Rapids; Secretary, George Duffield, Detroit; A. D. Hagadorn, of Lansing, Treasurer,

were present, as was the executive committee consisting of Drs. Ranney, Post, R. J. Shank, Baker and Hayden. President Shepard called the meeting to order, and prayer was then offered by Rev. C. H. Beale; then Gov. Luce delivered the address of welcome.

Referring to the large number of associations, at the present time he said:

"One reason why associations exist now as they have not done through the ages of the past, is the more general diffusion of knowledge throughout and amongst all our people. Another reason is because of improved facilities for travel. There are those here who perhaps started from a remote part of this great state yesterday, and to-day you are here in the capital city. It is only a few years since it was a labored effort to reach the capital city from twenty miles distant. I remember coming here myself less than thirty years ago when it was an all day's task to reach this city from Jackson, and we had to plod through the mud to do it. Now, these improved facilities make it more easy for our people to come together, and so we become a nation of association and organization, and our own state stands out in the front rank in the march of civilization and in the character of its people it is not, we think, behind the citizens of any state in the Union—in this we think that Michigan stands a little higher than any other state."

The Governor complimented the society highly, urged them to discharge their duty in instructing the people regarding the effects of alcohol upon the system, and welcomed them to the capitol, the state institutions and the well managed executive office where, "if I did not fear you would think me egotistical, I would say you would find one of the most pleasant, genial and good-natured of executives."

After roll call, recess was taken to take care of the crush which ensued when the order of "proposals for membership" was announced. It seemed every one had a friend he wished to get into the society, and there was no delay in securing application blanks.

Dr. Geo. E. Ranney, who followed with a brief address, said: "In addition to the eloquent words of welcome by his Excellency, the Governor, to your capital and our city, of which he is a citizen it becomes my duty and pleasure on behalf of the Executive Committee, of which I am chairman, and of the local profession here to extend to you, each and all, a sincere and cordial welcome.

"Seventeen years have elapsed since your first annual meeting

was held here, and nine years ago you held your thirteenth annual session in Lansing. The first roll call of the session of 1870 showed but a few more than a quorum, but during the session held in 1878 one hundred and forty-three members answered to their names.

"As you come to us over the seven different arms of railroad reaching to different parts of the state, you find here a city nearly quadruple in population since your first, and doubled since your last annual meeting here. To those of you who have only visited Lansing at long intervals, the evidences of growth, prosperity and beauty must be marked. The grading of streets and avenues, the erection of numerous business blocks and pleasant homes, the establishment of excellent water works without serious error or needless expense in the construction of the same, the gas works, electric lights, sewers, street railway, her fine schools, her numerous prosperous factories bordering our beautiful river, her shaded streets and sanitary condition, and the flourishing state institutions located here, make it appropriate, we think, to exclaim of your capital: 'If you would behold a beautiful city, look around you!'"

Invitations were read from the Superintendent of the Reform School and the School for the Blind, inviting the society to visit these institutions.

"Also Hon. O. M. Barnes and wife, tendered a reception in the evening at eight o'clock, at their residence at the head of Capitol avenue, to which all members of the Society and their ladies were invited."

The remainder of the afternoon session was taken up with the reports of the regular committees, and the two papers announced for the morning session were put over. The secretary's salary was increased from \$100 to \$200, and the reports of all the officers show that the society is out of debt and in an exceptionally flourishing condition.

It became evident at the beginning of the afternoon session that if the society hoped to struggle through the long programme of nearly forty papers it would have to divide into sections. Papers were read by Dr. Duffield, of Dearborn, on "How Typhoids are Generated in Germany," and by Dr. Baker, of Lansing, on "Cold Weather Communicable Diseases."

The convention then divided into three sections, one surgical, which adjourned to the Common Council rooms, a second medical,

which remained in the Pioneer Corridor, and the other, the gynecological and obstetrical section, met in the Supreme Court room, and each listened to the reading of papers on subjects of interest to their particular branch of medical science. In the evening the President, Dr. Shepard, of Grand Rapids, read an interesting and instructive paper on "The Evolution of Man," and then the convention adjourned to the residence of Hon. and Mrs. O. M. Barnes where preparations had been made for a reception in honor of the delegates at eight o'clock.

The second day the election of officers resulted as follows.

President, Dr. Theo. A. McGraw, Detroit; first vice, Dr. Tyler, Bay City; second vice, Dr. Herdman, Ann Arbor; third vice, Dr. Rose, Decatur; fourth vice, Dr. Groner, Big Rapids; secretary, Dr. Geo. Duffield, Detroit; (holding over another year); treasurer, Dr. Heminway, of Kalamazoo. Judicial Council, Drs. McCall, Kalamazoo; Hugh McCall, Lapeer; and Patterson, Charlotte. Forty-five delegates to the American Association for 1887 were chosen. All of the papers on the programme were finished at five o'clock, and the convention adjourned to meet a year hence in Detroit upon the call of the President.

JAMES S. JEWELL, of Chicago, died in that city Monday April 18, in the fiftieth year of his age. He was born in Galena, Ill., Sept. 8, 1837. He graduated at the Chicago Medical College in 1860. He had attained a wide reputation as an eminent physician first in general practice and more lately in the special department of diseases of the nervous system. He was one of the founders and for many years the chief editor of the *Journal of Nervous and Mental Diseases*, in which most of his literary work appeared. More recently he began the publication of a new journal, *The Neurological Review*, but on account of his failing health this was soon discontinued.

THE JOURNAL OF DIETETICS comes from Cleveland O. It is to be a quarterly journal devoted to the publication of original and selected and translated papers with regard to dietetics.

The field is one comparatively unoccupied. We wish all success to the new journal.

COMMUNICATIONS.

HODGKIN'S DISEASE ?

CHILTON, WIS, MARCH 9, 1887.

EDITOR OF THE COURIER.—DEAR SIR: In your valuable Journal of February, 1887, I saw an article from the pen of T. C. Biddle, M. D., of Reading, Kansas on "The Differential Diagnosis of Leukemia and Hodgkin's Disease," which I read with a great deal of interest. However there are one or two statements in this paper with reference to the microscopical examination of the blood, which I deem incorrect and worthy of a few remarks. The writer says, "that he found the white corpuscles in the proportion of one to every thirty or thirty-five red ones; whereas the normal ratio is about one to fifty." Now what does the Doctor mean by this "normal ratio"? Does he wish to imply that in normal, healthy blood, the proportion of the red to white corpuscles is one to fifty, or is it in leukemia that the above is the normal proportion? All physiologists say that in healthy blood there is one white to three hundred or four hundred red corpuscles. The proper proportion in leukemia, according to Loomis of New York and N. S. Davis of Chicago, is about one to twenty. Prof. Christian Fenger of Chicago says that a diagnosis of leukemia can be made when the proportion is one to seventy where there are other corroborating symptoms.

My main object, however, in addressing you is to report a case very similar to that of Dr. Biddle and which was of unusual interest to me.

H. W. a German æt, 18, came to my office Dec, 10, 1886. He complained of pain in the stomach and head, with some loss of appetite. He had been perfectly well until about three weeks previously when after a hard day's work, he complained of the above symptoms. The patient was pale, but not anemic or emaciated. On examination, I found enlargement of the cervical, sub-

maxillary, occipital, axillary and inguinal glands on the left side of the body. The abdomen appeared full but no enlargement of the viscera could be discovered. There was no fever; pulse 90 and bowels constipated.

Dec. 23. I visited patient at his home. His condition had grown steadily worse, there was great distress in the abdominal region, so much so that he was unable to bend forward without much pain. No rise of temperature. Glands more enlarged. I now detected an enlargement of the spleen.

Purpuric spots had made their appearance varying in size from a pin's head to that of a split pea, located all over the body. There was oozing of blood from the gums.

Dec. 27, was called in great haste to suppress epistaxis, which I did by plugging the nares with cotton saturated with Monsel's solution, I also ordered ergot internally. On examining the urine passed this day, I found it normal.

Dec. 28, visited patient again. Slight epistaxis. Purpuric spots in the same condition as at previous visit. A passage of blood from the bowels. I supposed this was due to blood which the patient had swallowed.

January 4, 1887. Patient unable to lie down from oppressed and difficult breathing. The spleen very much enlarged; marked edema of the lower extremities extending to the abdomen. Glands still more increased in size.

Jan. 10. I called in consultation Dr. Marti of New Holstein. Patient much worse, edema still more marked. Spleen so enlarged that it extended to the iliac region.

On the 20th, the patient died. No microscopical examination of the blood was made in this case.

Was this a case of Hodgkin's disease?

The symptoms were very similar to Dr. Biddle's case with the additional one of great edema of the lower extremities. Possibly there may be many other cases of similar character which might be brought to the notice of the profession, through the medium of the medical journals.

Yours truly,

D. LA COUNT, M. D.

VACCINE OF SMALLPOX AND RABIES.

FRENCH VILLAGE, ILL., Jan 27, '87.

EDITOR COURIER:—In this communication I desire to furnish compared statistics of the efficacy of the three vaccines, viz., Jenner's, carbuncle and rabies.

Before Jenner's discovery, the number of deaths from smallpox averaged 500 for every 1000 patients. Since, the average is only twenty-three for every 1000 patients. Jenner's vaccine as a preservative is therefore represented by $\frac{500}{23}$, its actual value, or 21.70.

Veterinary surgeons (200 of them) who use carbuncle vaccine, give the following statistics:

Deaths before the discovery of that vaccine averaged 120 for 1000 cases; deaths since the discovery average only five for 1000. Carbuncle vaccine as a preservative is therefore represented by $\frac{120}{5}$, its actual value, or 24.

The compared statistics of MM. Leblanc and Pasteur give the following results: deaths before the discovery of the vaccine of rabies average 160 per 1000 cases; deaths since the discovery average seven per 1000. Vaccine of rabies as a preservative is therefore represented by $\frac{160}{7}$, its actual value, or 22.86.

The preserving power of the three vaccines therefore appears to be about equal.

These statistical figures are borrowed from the medical journal of Bordeaux, France; were furnished by Professor Graveher of the medical faculty of Paris, and can be considered correct

Respectfully yours,

DR. C. H. CRISTOFFE.

CONSERVATIVE SURGERY.

LOWELL, DODGE CO. WIS. MARCH 14, 1887.

EDITOR OF COURIER.—DEAR SIR: A few years ago a boy, set. 15, fell from a straw-stack, upon the horns of a cow eating below. As the boy came in contact with the cow, one of her horns entered his anus and he was tossed up and dropped beside the beast. The horn passed up the rectum nearly two inches, and tore out to one side through the gluteal region, several inches making a fearful wound. The hemorrhage was profuse, but not dangerous.

The deep ragged wound was carefully but thoroughly cleansed with water, and put in as close apposition as possible, without sutures or adhesive straps. The legs were bandaged close together. After carefully cleansing each day, some simple cerate was applied to the wound on lint, and retained by a bandage.

The parts healed mostly by granulation, but rapidly and well. Opiates were given to keep the bowels quiet for a few days and the food given was of a kind nearly non-excrementitious. About four days after the injury, the bowels became bloated and somewhat painful, though not tender on pressure, and there was a strong tendency to action. It was thought best to use milk and water injections to soften down the fecal matter so it might pass through the injured parts without rupturing the adhesions. Also the patient was urged not to make any effort, but after all the pains taken, the anus was torn somewhat, and there was some hemorrhage. The parts however healed kindly, and all went well. This case gave me some anxiety as, without an operation, I was fearful that the patient would not be able to control the act of defecation as before the injury. But I was pleased to learn several weeks after my last visit to him that he could control the action of the bowels very well. This, as well as many other bad cases of wounds, has taught me, that what we call nature, can do much when not interfered with. Operative surgery is sometimes very necessary, but I fear many surgeons place too high an estimate on their acts and too low an estimate on the inherent powers of nature. Before closing let me say, your articles on "School Hygiene" have given me much pleasure, as they confirm my observations, made years ago, when I was for a long time a teacher and superintendent of common schools. The "Cases in Practice", in your last journal were very instructive and interesting. Please give us more such. I take several medical journals but for its size, the *COURIER*, is much the best.

Yours very truly, L. M. BENSON.

DR. ROBERT KOCH.—Parke, Davis & Co., of Detroit, have published an admirable portrait of this eminent German scientist as a companion to the portrait of M. Pasteur, the French savant, which they published last year. They offer to mail a copy of this portrait to any physician upon application.

NOTES AND ITEMS.

HEREDITY OF CANCER OF THE BREAST.—In the report of the Committee on Collective Investigation of Disease, presented at the last meeting of the British Medical Association by Henry T. Butlin, one of the questions discussed was that of heredity. After a careful study of the data accumulated Mr. Butlin concludes as follows:

“I confess that when I first proposed the subject of the inheritance of cancer, for collective investigation, it was with a very small belief in the reality of inheritance, and with a strong belief that the inquiry would result in such a failure of evidence as to diminish largely the impression which prevails that cancer is due in part to the influence of inheritance. I am forced to own that the mass of evidence which has been accumulated by the inquiry has led me to take a different view. The number of instances in which there is a history of cancer in the direct line of descent, the manner of the relationship in those families in which more than one of the patient's relatives were the victims of cancer, and the very strong probability that the case is throughout under- rather than overestimated, are, to my mind, proofs which cannot be resisted. Compare this evidence of the influence of inheritance with that on which some of the undoubted causes, whether exciting or predisposing, rest, and the balance is largely in favor of inheritance. What is more certain than the predisposition of the breast and uterus to cancer, yet probably not more than one in fifty (2 per cent) of the adult women who die, die of cancer of the breast or uterus. Injury is admitted on all hands to be a cause of cancer, yet Gross finds that only about 11.70 per cent of the large number of patients in his collection attributed the occurrence of the disease to injury. Our returns show that there was a history of cancer in the direct line of descent in 20.60 per cent of the cases; and, if only the fathers and mothers of the cancerous patients are considered, that there was even then a percentage of no less than 16.84.—*Brit. Med. Jour.* Feb. 26.

DR. ARTHUR FARRE, Honorary President of the Obstetrical Society of London, physician extraordinary to the Queen and physician-accoucheur to the Princess of Wales died in March—in the seventy-seventh year of his age.

DR. FRANKLAND ON FILTRATION.—Dr. Koch, of Berlin, with Professor Frankland and Dr. Bischof, of England, have made a great number of highly interesting and instructive experiments on the germ culture of water, and in determining the proportion of these micro-organisms that can be eliminated in various ways; by filtration through different media, by agitation with solid particles, by chemical precipitation, and by natural agencies. Dr. Frankland's results and conclusions are given in the December number of the *Journal of the Society of Chemical Industry* for 1885.

From this report the following conclusions are to be drawn in regard to filtration.

1. It is possible by a proper filtration to entirely deprive water of its germ life.

2. After the complete deprivation of its germ life, if water is exposed to the ordinary influence of air and contact with the biologically unclean materials used for its storage and conveyance, the germ life is rapidly reintroduced and multiplied.

This makes it desirable to furnish the filtered water for use as soon after the operation as practicable.

3. It is necessary to renew or cleanse the filtering material very frequently. In some cases the water filtered through materials which had been in use for a month, had its germ life increased by the operation.

4. Some materials, which exert but an insignificant chemical action, are completely successful in purifying the water, from a biological point of view. This is the case with powdered coke and charcoal.—*Sanitary Era*, Aug. 11, 1886.

MEDICAL STUDENTS MISSIONARY CONFERENCES.—Last December meetings were held in New York and Philadelphia by students of various medical colleges in those cities to consider the claims upon them of medical missions.

THE AMERICAN SYSTEM OF GYNECOLOGY is among the more important announcements of Messrs. Lea Brothers and Co., of Philadelphia. We are glad to learn that the first volume is well through the press, and may be expected shortly.

Numbering among its contributors our most prominent authorities and ablest writers both in the east and west, it will present a thoroughly satisfactory and complete statement of the science in its most recent aspects, and that which has been peculiarly an American specialty will receive from American hands the literary tribute due to it.

AFRICAN MEDICINE.—"A woman came who had been ill with inflammation of the lungs. Some one striving to cure her had put small quantities of sulphur over her chest and stomach, and set fire to it, producing as many as twenty ulcers, a counter-irritant few would submit to. These people are wonderfully enduring though their tender mercies are cruel indeed."—*Med. Miss. Rec.*, Feb., 1887.

PROF. JULES BECLARD, the eminent physiologist, died in Paris, February 9, 1887. at the age of 68 years.

THE UNIVERSITY OF LOUISVILLE has just celebrated its semi-centennial, and the doctorate address, delivered by Dr. David W. Yandell, is a narrative of the origin and record of the institution, and contains very much of interest with regard to the different men who have been connected with the University during the fifty years, some of whom are men of national or more than national reputation.

THE MAJORITY OF GASTRIC AFFECTIONS are tributary to an exclusive treatment based on hygiene, and in therapy of these diseases pharmaceutical agents play only a secondary role.

Dujardin Beumetz in *Therap. Gaz.*, Jan. 15, 87.

A SUDDEN BLEACHING OF THE HAIR, which has been known to take place almost instantaneously from fright, must consist in a withdrawing of the protoplasm of the hair back into the blood-vessels of its bulb together with the pigment; somewhat as the protoplasm of a dying leaf which whitens on the twig migrates through the cells of that leaf to the branch which sustains it. And this process is better seen yet in the slow discoloration of bulbous plants like the onion and the turnip during their first year while ripening in the garden.—*Am. Jour. of Biology*, Nov. '86.

THE TEMPERATURE of several of the lower animals is higher than that of man:

Man, 98.9° F.; Dog, 102° F.; Sheep, 104° F.; Birds, 107.6° F.—*Am. Jour. of Biol.*, Nov. '86.

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